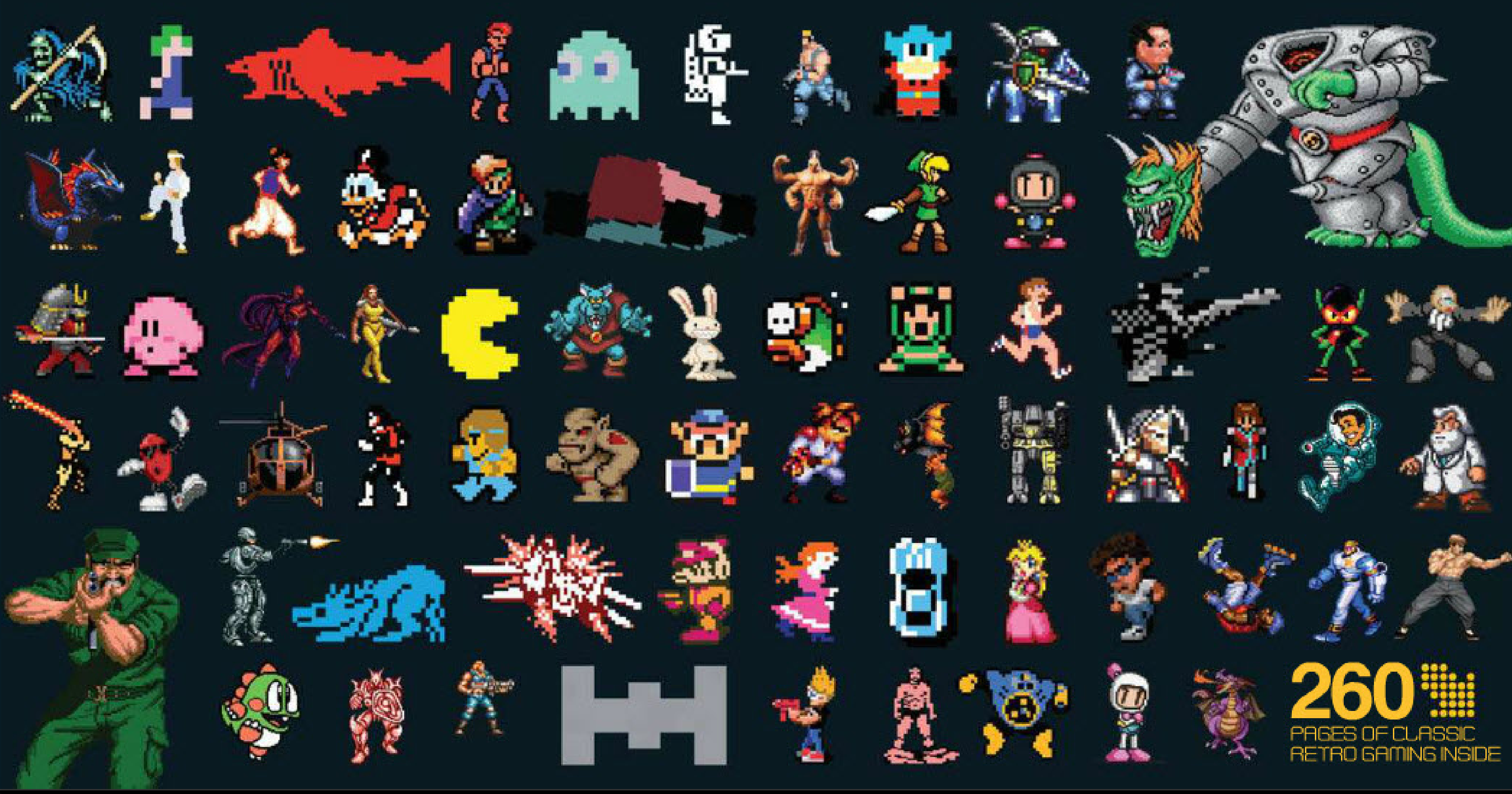


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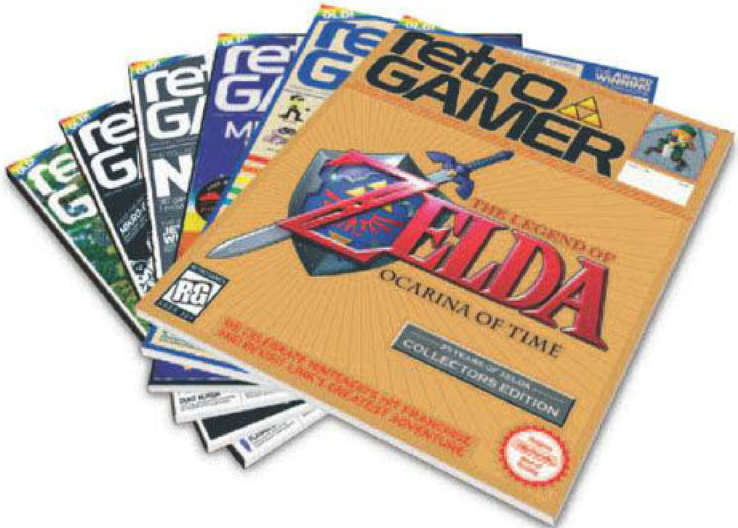
The ultimate guide to classic videogaming

VOLUME FIVE

AMSTRAD | COMMODORE | SEGA | NINTENDO | ATARI | SINCLAIR | NEO-GEO | SONY | COIN-OP | MOBILE



260 PAGES OF CLASSIC RETRO GAMING INSIDE



Welcome to the greatest retro gaming collection ever…



retro GAMER COLLECTION

Welcome back everyone to a massive bookazine overload of your favourite magazine. It's been an utterly fantastic year for Retro Gamer, which has seen us create some truly innovative covers, win a prestigious award for having the best videogame magazine in the UK and reveal even more fascinating insights into the world of retro gaming. In short we've come an incredibly long way in the last five years.

Inside this unmissable bookazine you'll discover in-depth articles on some of the greatest games and franchises that the videogames industry has ever seen. You'll discover the origins of Ultimate's Sabreman, discover how Capcom created its cult hit Strider, learn the full history of Prince Of Persia and Lara Croft and get exhaustive, in-depth interviews with David Braben, Geoff Crammond and Activision co-founder David Crane.

I've personally hand-picked what I feel are some of the finest moments from 12 issues of the magazine, so you can guarantee that this essential 258-page tome will feature only the very best of our award-winning articles. Enjoy.

Retro GAMER Collection

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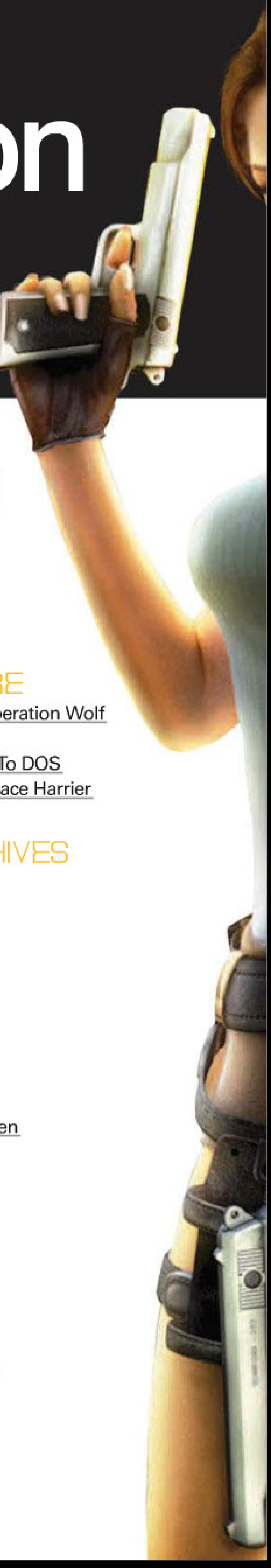
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retro* GAMER Collection

CONTENTS



The ultimate guide to classic gaming

RETRO REVIVAL

THE HISTORY OF

CLASSIC GAME

RETROINSPECTION

PERFECT TEN

AND THE REST

THE MAKING OF

WHY YOU MUST PLAY

THE BIG FEATURE

FROM THE ARCHIVES

IMPORT ONLY

IN THE CHAIR

PIXEL PERFECT

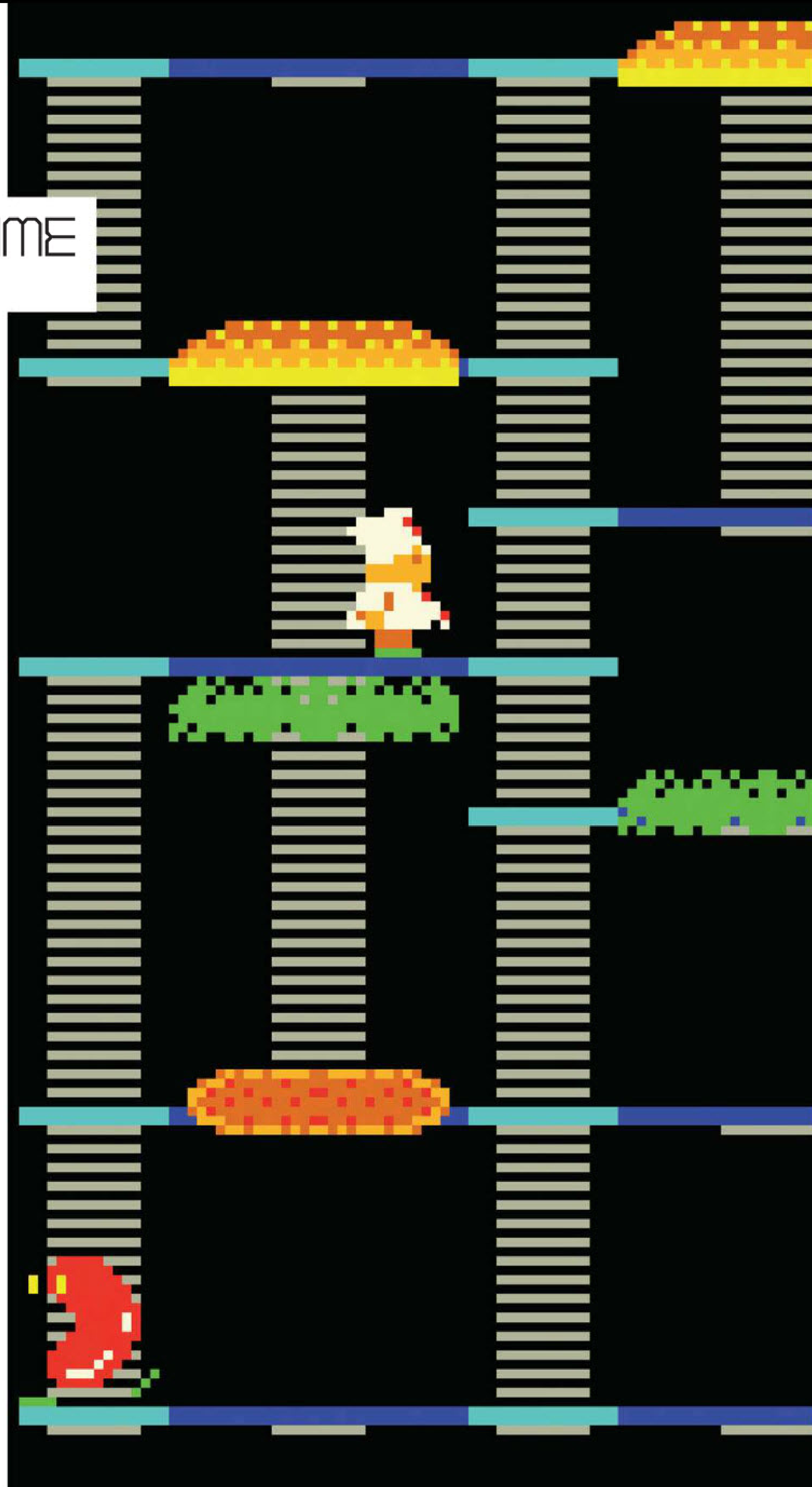


RETROINSPECTION

FEATURED HARDWARE IN-DEPTH

BURGER TIME

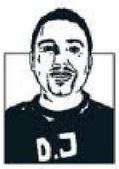
NOW THAT'S SOME FAST FOOD





» **PUBLISHER:** DATA EAST
» **RELEASED:** 1982
» **GENRE:** PLATFORMER
» **FEATURED HARDWARE:** ARCADE
» **EXPECT TO PAY:** £100+

HISTORY

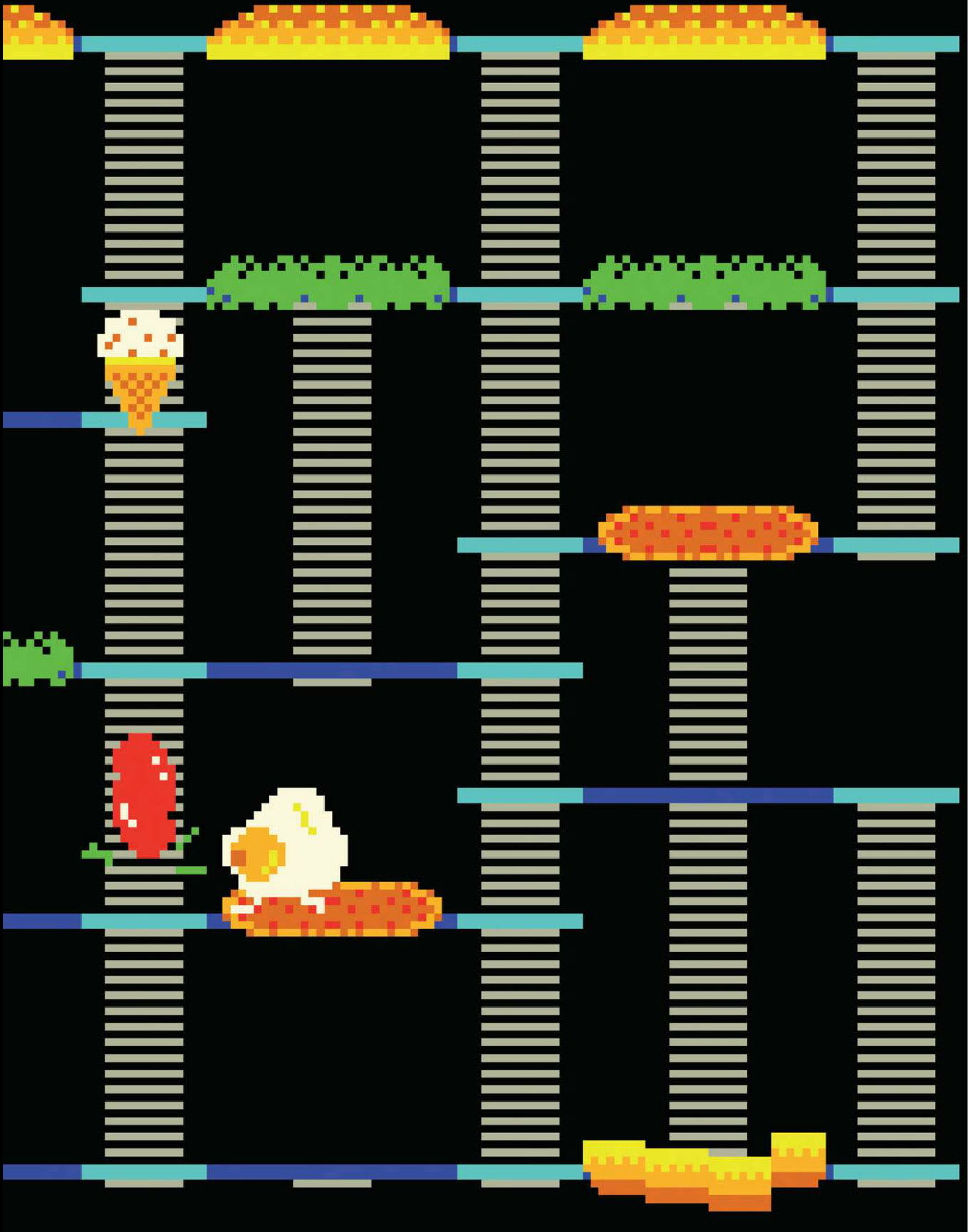


Nowadays it's rare to find a videogame based around a job, but back in the Eighties it was happening all the time. Gamers could take on the role of a dustbin man in *Trashman*, deliver newspapers in *Paperboy*, or even serve drinks in *Tapper*. One of my personal favourites from back in the day, though, was taking on the role of Pepper Pete in Data East's wonderful *Burger Time*.

Cast in the plump form of Pete, you're required to race up and down each screen's many platforms and make a set number of burgers. Unfortunately for Pete, the ingredients are scattered throughout each stage, meaning plenty of running back and forth in order to create his delicious snacks.

Walk across an ingredient and it will drop down a stage, instantly knocking any other ingredients beneath it down a level as well. Once each burger is finished off, you can move on to the next screen. Pete's task sounds relatively straightforward, but he's constantly hounded by a variety of other foodstuffs, which can be temporarily thwarted with a quick dash of pepper. Give them a liberal dose and they'll be held in place for a few precious seconds, allowing Pete to attempt an escape. Sadly, though, Pete only has a finite number of pepper doses, so sprinkling without a care in the world isn't going to help your cause at all.

Upon realising that you only have a limited amount of ammo to deal with your opponents, *Burger Time* becomes a hectic chase through each single-screen stage, with the portly chef constantly trying to finish off his burgers while avoiding all the deadly ingredients. It makes for a tremendously satisfying experience, as you're continually working out the best way of finishing off your burgers while working out how best to navigate each stage. Needless to say, you'll need both fast thinking and cat-like reflexes if you ever hope to see *Burger Time*'s later stages, which still completely elude me.



A Prince Among



Jordan Mechner was 21 when he created Prince Of Persia. Now, 22 years after the original game, and with a blockbuster movie now completed, **David Crookes** talks to the man who created a prince

Jordan Mechner was once hailed as the king of the platform game. Having created *Prince Of Persia* in 1989, he was bestowed with this most fitting of crowns almost immediately as players fell to their knees in deference to the fluid movement of the main character and doffed their caps to level design that was sometimes frustrating but always fun.

And today? Mechner looks back on a franchise that has stood him well for more than 20 years, and he is happy. Happy that people have taken this most royal of games to their hearts and ecstatic that he has realised a boyhood dream. And yet it could have been so different. After Mechner had created the first game for the Apple II computer, and after he had seen it ported to almost every machine under the sun, he considered abandoning gaming and following his heart as a filmmaker.

The lure of gaming – and the difficulty in forging a career in the movies – ensured that he continued to produce games, and he had a strong leading role in not just the sequel but the first game of the much-applauded last-generation reboot. That, however, has led him to his personal holy grail, for it is now that he is treading the red carpet, his screenplay for the film version of *Prince Of Persia* having been accepted by Hollywood producer Jerry Bruckheimer. The film was given a release date of 28 May 2010, and Mechner's feet have barely touched the ground since. Hell, it has even given him the chance to take his graphic novels based on the franchise straight into the mainstream.

"I love writing movies, I love making games and writing graphic novels," he tells us. "I'd hate to have to choose among them, and I'm really happy and grateful that *Prince Of Persia* has given me the chance to have a role in creating all three."

But let us go back in time to the moments before Mechner began programming the very first *Prince Of Persia* game. He had spent time producing an action romp called *Karateka* while studying at Yale University. It was 1984 and the young up-and-coming New York programmer had experimented with rotoscoping, an animation technique that involves animators tracing over live-action film movement frame-by-frame.



The end result was a revolutionary platform beat-'em-up that had a story with fast-paced cut-scenes, smooth scrolling backgrounds and, thanks to Mechner's rotoscoping work, animation more fluid than much of what was out there at the time.

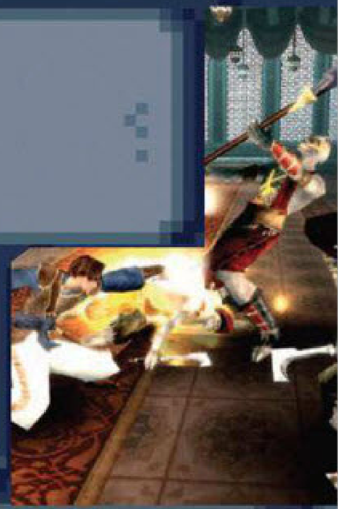
"I enjoyed producing *Karateka*," says Mechner. "I wanted to make this kind of karate fighting game at the time, but once I had finished it and saw it had done well, I wanted to push myself." It was then that he decided to pursue something a little different. "My idea with *Prince Of Persia* was to take the game's fluid action and presentation and combine it with a puzzle-solving game that was more along the lines of *Road Runner* and *The Castles Of Dr Creep*, both of which I was enjoying a lot at the time," he says. "So that was really the primary inspiration for *Prince Of Persia* – that and the fact that I loved movies."

Mechner had been given his Apple II computer at the age of 15 and he spent much of his earlier days with the machine playing around with animation. He developed a fascination with recreating human movement – he used his brother, David, as a model and had him jumping, squatting and running, taking footage that he later used to capture the nuances of human agility – and he was also a major fan of action. It was to the now-classic high-tempo blockbuster movies of the Eighties that he flocked as a teenager – the likes of *Indiana Jones* and numerous Spielberg specials.

"I loved the first ten minutes of *Raiders Of The Lost Ark*," he states, with an enthusiastic tone he retains despite the passing of time. "That kind of running, jumping action where you feel like the hero is in great danger and escapes by the skin of his teeth was what I wanted to recreate. I wanted to bring that

Games





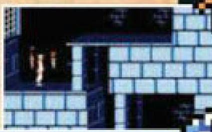
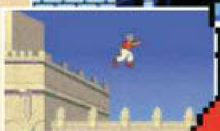
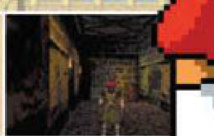
» [360] The 1989 original *Prince Of Persia* was remade by Gameloft and published by Ubisoft for Xbox Live Arcade. It featured the same level design, swordplay, puzzle-solving and storyline, but it had new character designs, animations, visuals and lighting effects. New traps, puzzles and enemies were also added.

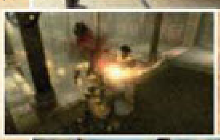
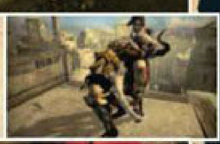
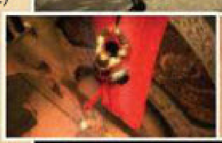
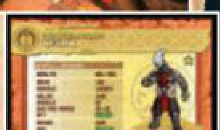
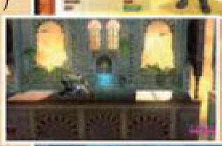


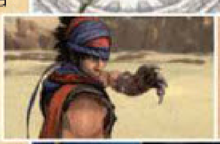
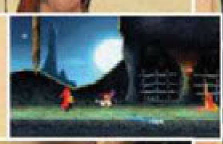
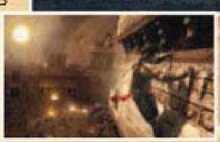
» [Xbox] Combat was heavier than ever in the revival, with the Prince called on to dispatch numerous foes at once.

Gameography of Prince Of Persia

1989 Prince Of Persia (Apple II, DOS, NES, SNES, Game Boy, Game Boy Color, Mac OS, Amstrad CPC, Amiga, Atari ST, PC Engine, Mega-CD, Mega Drive, SAM Coupé)
1994 Prince Of Persia 2: The Shadow And The Flame (DOS, SNES, Mac OS)
1999 Prince Of Persia 3D (Windows, Dreamcast)
2000 Prince Of Persia: Harem Adventures (Mobile)
2003 Prince Of Persia: The Sands Of Time (PS2, Xbox, Windows, GameCube, Mobile)
2004 Prince Of Persia: Warrior Within (PS2, Xbox, Windows, GameCube, Mobile)
2005 Prince Of Persia: The Two Thrones (PS2, Xbox, Windows, GameCube, Mac OS X)
2005 Prince Of Persia: Revelations (PSP)
2005 Battles Of Prince Of Persia (DS)
2007 Prince Of Persia Classic (PSN, XBLA, Wii)
2007 Prince Of Persia: Rival Swords (PSP, Wii)
2008 Prince Of Persia (PS3, Xbox 360, Windows, Mac OS X, Mobile)
2008 Prince Of Persia: The Fallen King (DS)
2010 Prince Of Persia: The Forgotten Sands (PS3, PSP, Xbox 360, Windows, Wii, DS)


kind of excitement to gaming, to the Apple II platform. It was a machine I was really getting to grips with and it was the most natural thing for me – as an amateur animator, film fan and gamer – to try to do."

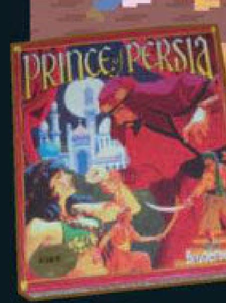
Prince Of Persia did, indeed, foster a feeling that a wrong step or a mistimed button press in a jostle of swords against increasingly mean guards would lead to a time-sapping death, a fate that would not so much put you out of the game but eat away at the 60 minutes you had to complete it. In some ways, it was as much about the save-game feature as it was the endurance and hair-tearing that accompanied each play, but the concept of time was firmly cemented, and it was one that would endure right up to the present film and loose game tie-in.

"I think what surprised so many – aside from the game itself – was the fact that the Apple II at the time was a really old platform," Mechner confides. "By the time I'd finished *Prince Of Persia* in 1989, the computer was actually more than ten years old. I felt at the time – and I certainly still feel this now – that the first *Prince Of Persia* definitely moved up and even surpassed the hopes that I'd had for the game in the beginning, when I first conceived of it in 1985. But at the same time I was really starting to see other games and other platforms that could go beyond it, technically, in terms of what it was capable of, so in that sense I felt like I was kind of trying to keep up with the market that was evolving even as I was programming the game."

The debut *Prince Of Persia* was a complete success. It was ported to dozens of machines, appearing on consoles as diverse as Nintendo's NES and Game Boy and Sega's Master System and Mega Drive. The game, which sold 2 million copies, had an uncanny knack for making 8-bit machines appear on a par with more advanced computers. The only astonishment was that it took five years for a sequel to appear.

Where *Karateka* and the debut *POP* represented a massive leap in gameplay for the young Mechner, *Prince Of Persia 2: The Shadow And The Flame* was essentially more of the same, albeit



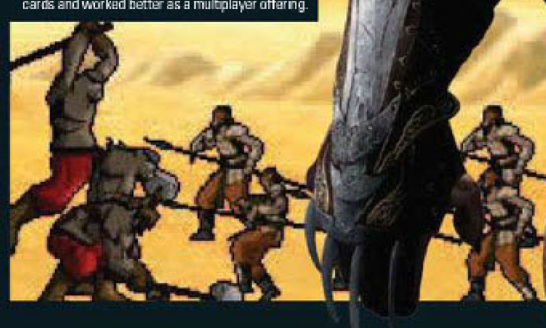


with a greater incidence of sword-tangling, to the point where it was not uncommon to do battle with four foes. Taking place 11 days after the end of the original, it was an altogether more difficult romp, with shinier graphics and a larger area to explore. The game was also keen on plot: the Prince's dream of marrying the Princess is seemingly thrown into disarray when evil Jaffar has him banished from the palace, his escape ship is blasted by a bolt from the sky, and he ends up on a land far away from Persia, determined to get back and sort his single-dom out once more. Life, as you could imagine, was pretty rubbish for him.

And yet if the game showed anything, it was Mechner's penchant for story. So why the increase in combat? "Interesting…" the programmer ponders. "Well, I wouldn't say I regret putting more combat in the game, because when I look back to the debut, I had remade the levels so many times over a period of three years and for the second game I wanted a much more conventional, sort of planned development. Part of that was a desire to make it more combat-heavy, in some sense."

The plan for the second game was rubber-stamped in September 1991. Mechner expressed

» [DS] There have been many versions of *Prince Of Persia*, among them *Battles Of Prince Of Persia* on the Nintendo DS, which took place between *Sands Of Time* and *Warrior Within*. It was a turn-based tactics game that had a mixed reception from fans. The game revolved around playing cards and worked better as a multiplayer offering.





his relief that the series would continue, as he had feared that the publisher, Brøderbund, did not want a follow-up. Two of the company's decision-makers, John Baker and Michelle Bushneff, were said to have felt that the project was growing out of control, but following a set of meetings it soon transpired that they really wanted the *Prince Of Persia* genius to be more specific about his direction for the game and the exact requirements of the team that he was about to head.

It was not possible for Mechner to work alone this time; the gaming industry had matured and the bar of expectation was higher. So whereas Mechner created the original title largely without help, the sequel was being afforded a team. Storyboards were needed, graphics had to be specified, and Mechner was the head honcho. He was in his element. "Everyone is deferring to me the way a film crew defers to the director," he wrote in his diary at the time. "Somehow, I've acquired that magic quality: credibility."

Despite his huge success, he admits that he was feeling the pressure. He didn't want the project to fail, as much for his own sake as for the game itself. "If they ever start to doubt me, it could become a nightmare," he wrote. There was a sense that he was riding the crest of a wave, acting out his Hollywood dream in pixellated form and yet deeply foreboding that his crown could be sent flying and he be deposed. From king to prince to pauper…

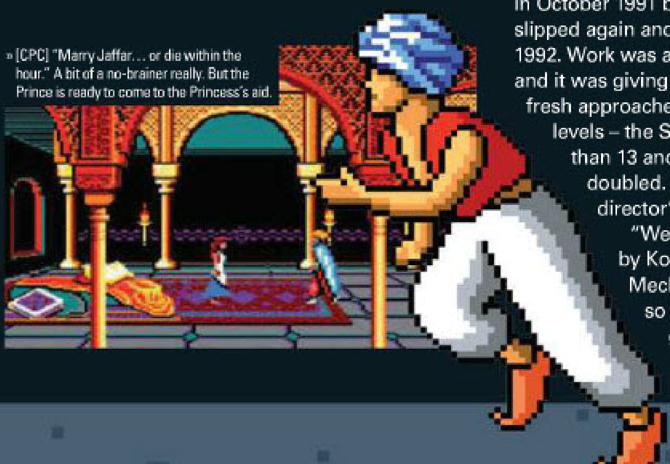
"Yeah, I had a team – a group of artists and programmers," he tells us. "I sort of directed the game remotely. I was living in Paris at the time, making a short film, and I wasn't there 12 hours a day for the development. I think it was a luxury that I had on the first game that maybe enabled that, and with that debut title I really got to tweak the balance over a long period of time. With the second game, though, I pretty much made a couple of drafts of each level and that was it. I had to stick to the schedule."

At the same time as developing the second game, Mechner had to oversee the long-overdue Apple Mac version of the original. It was due in October 1991 but pressure meant that it had slipped again and was looking at a release in early 1992. Work was also progressing on other ports, and it was giving Mechner a chance to oversee fresh approaches, such as better graphics or more levels – the SNES version had 20 levels rather than 13 and the time limit was subsequently doubled. Was it a case of producing a director's cut?

"Well, when I saw the SNES version by Konami I was blown away," says Mechner. "I wasn't the programmer so for me it was like playing the game as a newcomer and I was experiencing my game in the way a gamer did a few years before. I didn't know what was coming and what was going to happen next and it was a lovely feeling. But it also helped spur me on even more to make the sequel special – technical limitations of the first game were severe because the whole game had to fit into 64k of memory. On the Apple II, even just in a few years, in between starting to program the first *Prince Of Persia* in 1986 and the time it released in 1989, the machines were capable of so much more in terms of graphics and sound. I think seeing the release of enhancements – and certainly my eagerness for a full-on sequel – was partly down to the attraction of just being able to have a little bit more freedom, you know, in terms of different types of backgrounds and playing music simultaneously with the game, whereas on the Apple we had to actually freeze the animation to play a couple of notes of music. We had both at the same time."

The infrequent face-to-face communication between Mechner and his team meant, for the first three months, that his art team had been working without even setting eyes on him. He was directing from afar – perhaps not what he would have wanted, but film was still turning his head. Although Mechner had been buoyant the previous September, by January doubts remained and the publisher was threatening to slash the budget. It was into this atmosphere of uncertainly that Mechner walked, and yet there was a sense that *Prince Of Persia 2* was still the project that most artists wanted to work on. The lure of producing realistic animation was a head-turner, and Mechner indulged his art team with a screening of the 1940 film *Thief Of Baghdad* to get them in the mood.





» [CPC] "Marry Jaffar… or die within the hour." A bit of a no-brainer really. But the Prince is ready to come to the Princess's aid.

The Prince Of Celluloid

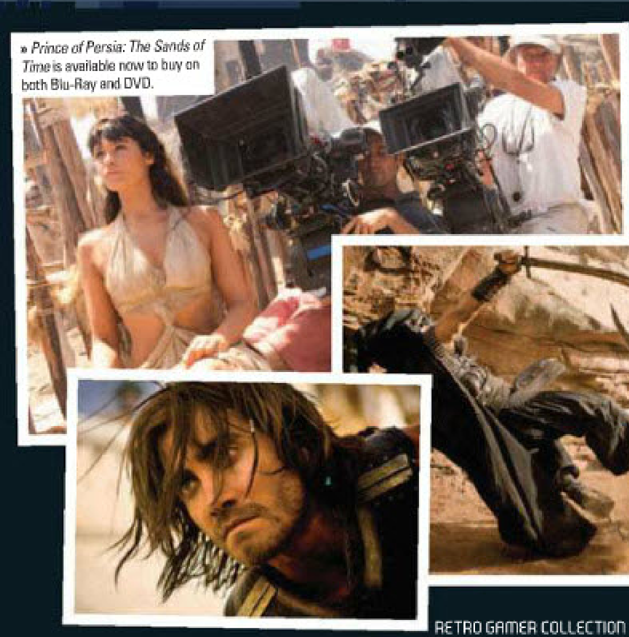
Jordan Mechner reveals his thoughts on the film he pitched, wrote and helped develop

"It was around 2004 and I had the idea to pitch *Prince Of Persia* as a film. With *Sands Of Time*, I felt that it was a second chance to really push the franchise. If there was one thing I hadn't done in the Nineties, it was make the most of the game, so I got together a trailer, using footage from the *Sands Of Time* game, and I showed it to Jerry Bruckheimer.

"I also pitched the story of the movie, which I wanted to be different from the game. I kept elements from *Sands Of Time* but I reconfigured it as a story that was intended to be watched rather than played. I think the trailer helped a lot to show what kind of movie it was going to be.

"For me, I think with games and movies there's such a different approach. So what I did was go back to what had been the source of inspiration for *Prince Of Persia*, and that was a particular kind of swashbuckling action of which *Raiders Of The Lost Ark* was an example. I was also inspired by *Robin Hood*, and I tried to make a movie in that genre.

"I think the *Sands Of Time* story really lends itself well to a film, and I think it's really good for that kind of big, spectacular summer movie. What I will say is that the powers of the dagger are really specifically structured to serve the game. For example, the fact that everyone in the world has turned into monsters, except for the hero and the villain, and they then build a dagger by fighting these monsters. That's an element of mythology that supports the gameplay. In the movie, that doesn't really make sense, so I limited the powers of the dagger. You'll have to see it – it's really cool."



» *Prince of Persia: The Sands of Time* is available now to buy on both Blu-Ray and DVD.



» [360] One of the problems people had with the 2008 reboot was Elika's helping hand. She would reach out and grab the Prince whenever he found himself in trouble, making the game easier.

That, however, wasn't the main issue. He had to persuade Baker that it was a game worth the immense investment. And in his approach, Mechner proved to be a master director, using the trick of ensuring that the boss felt a sense of involvement in the project. Before long, he had thrown the company's resources behind the game, even though he was still nervous of the cost. Indeed, it was the most expensive game in Brøderbund's history. And yet the desire for film was still with him. "I know what I want to do with my life," he writes. "Why not just do it?"

The hands-off approach to *Prince Of Persia 2* did get to him. He loved being able to step in and help with a crisis such as making heavy graphics cuts. And neither did he regret having to scale back the game's ambition. "Sometimes I feel a game that is very polished and has had a lot of cash spent on it can appear a little too sanitised," he says. And it was around this time that he began to see the real attraction of producing a game, which he says was "more fun that 16mm student filmmaking".

As the game neared completion, Mechner was nevertheless becoming jaded, caring little for details that would, at any other time, be an excitement. One of those was the name. He cared little whether the tag would be *The Shadow And The Flame*, *City Of The Dead* or *City Of Souls*. But was he pleased with the game, looking back?

"I was in a lot of ways, but it wasn't quite the close… you know, the intimate involvement that I had on the first game, just because I was geographically apart and personally there was a little bit more distance," he says. "I wasn't living and breathing it every day in the way I was with the first game."

Mechner wrestled intensely with his inner self during this period. It was clear to him that, while enjoying the creation of games, his life's dreams were not being fulfilled. He had yearned for a girlfriend, felt the urge to see the world, and that desire for a movie would never leave him. It is why, for his next project, he produced *The Last Express*.

In 1993 Mechner set up Smoking Car Productions primarily to design his new game, which was set on the Orient Express in 1914. Players were pitted in the role of US doctor Robert Cath, framed for the murder of an Irish police officer, and the Agatha Christie-style yarn was notable for being entirely played in real-time.

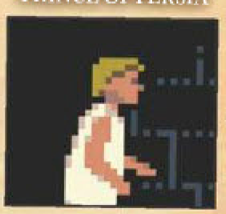
And time is what Mechner was feeling like he had precious little of and so, when he finished the production of the game, his interest in film was piqued once more. It didn't help that *The Last Express* was a failure commercially – despite being a success critically – due to the Brøderbund marketing department quitting weeks before its release in 1997. So when Red Orb Entertainment started to produce the third game in the *Prince Of Persia* series at that time, Mechner was underwhelmed. With the gaming public by now used to seeing games in the third dimension, a decision was made to make the third *POP* a 3D masterpiece. The idea was for The Learning Company to publish the game and that it would be created for the PC. It made its debut in 1999.

The difficulties – some financial – that so marred the release of *The Last Express*, however, caught *Prince Of Persia 3D* as well and, as a consequence, it was released without having been through any

Athlete Kings

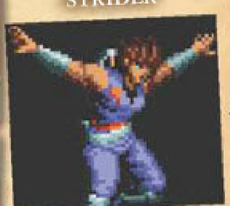
The Prince isn't the only gaming character known for his athleticism

PRINCE OF PERSIA



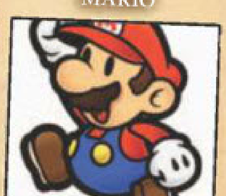
Agility	17/20
Strength	17/20
Stamina	18/20
Fighting	17/20
Good looks	18/20
Overall	**87/100**

STRIDER



Agility	19/20
Strength	18/20
Stamina	17/20
Fighting	18/20
Good looks	18/20
Overall	**90/100**

MARIO



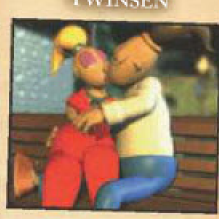
Agility	17/20
Strength	17/20
Stamina	17/20
Fighting	16/20
Good looks	10/20
Overall	**77/100**

SONIC THE HEDGEHOG



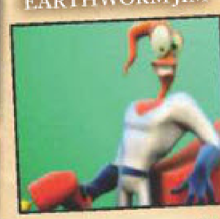
Agility	14/20
Strength	17/20
Stamina	15/20
Fighting	14/20
Good looks	17/20
Overall	**77/100**

TWINSEN

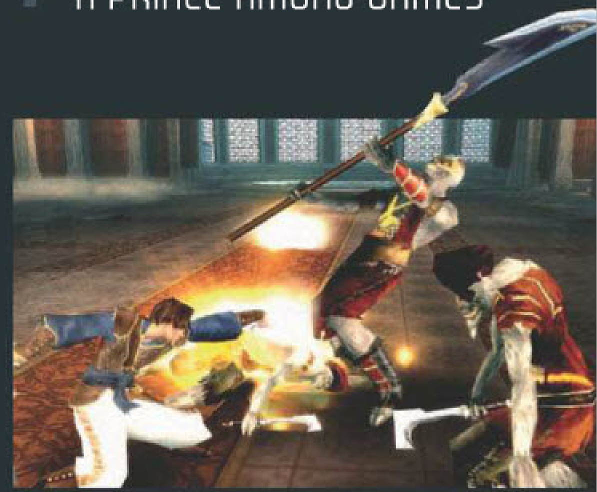


Agility	15/20
Strength	16/20
Stamina	18/20
Fighting	14/20
Good looks	5/20
Overall	**68/100**

EARTHWORM JIM



Agility	17/20
Strength	18/20
Stamina	18/20
Fighting	16/20
Good looks	1/20
Overall	**70/100**



Games inspired by a prince

Flashback

- **Developer:** Delphine Software
- **Publisher:** US Gold
- **Platforms:** Amiga, Acorn Archimedes, Mega Drive, DOS, SNES, 3DO, Atari Jaguar, CD-i,
- **Year:** 1992

Both *Flashback* and *Prince Of Persia* made use of the rotoscoping technique, but they were developed independently of each other. The style of the two games is very similar, and with *Flashback* coming after *Prince Of Persia*, it will undoubtedly have drawn inspiration from Mechner's game.



Blackthorne

- **Developer:** Blizzard Entertainment
- **Publisher:** Interplay
- **Platforms:** SNES, DOS, Sega 32X, Mac, GBA
- **Year:** 1994

Blackthorne was less reliant on platforming and concentrated more on puzzles and combat, but the inspiration was clear. The character had the Prince's abilities and weaknesses, and the play involved elements of trial and error. One problem is that fighting could be repetitive, which wasn't the case in *Prince Of Persia*.



Tomb Raider

- **Developer:** Core Design
- **Publisher:** Eidos Interactive
- **Platforms:** Sega Saturn, PlayStation, PC, Macintosh, Windows Mobile, N-Gage, PSN
- **Year:** 1995

With its mix of running, jumping and platforming, the inspiration for *Tomb Raider* is clear. Lara Croft is essentially a female Indiana Jones, the character who inspired Mechner to create *Prince Of Persia*. The tricky puzzles of *POP* were, in essence, transported over to a lush 3D world.



Oddworld: Abe's Oddysee

- **Developer:** Oddworld Inhabitants
- **Publisher:** GT Interactive
- **Platforms:** PlayStation, PC, Windows, Game Boy, PSN
- **Year:** 1997

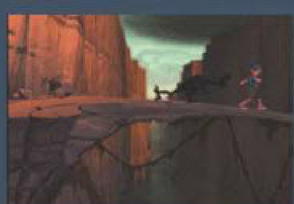
Athough creator of the still-unfinished *Oddworld* saga Lorne Lanning says the game was more inspired by *Another World*, the 2D PlayStation platform game *Oddworld* was very similar to *Prince Of Persia* in layout and playability. You even hoisted up platforms, *Prince Of Persia*-style – until a marauding Slig shot you down.



Heart Of Darkness

- **Developer:** Amazing Studio
- **Publisher:** Interplay
- **Platforms:** PlayStation, PC
- **Year:** 1998

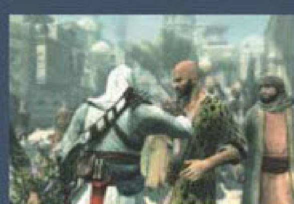
What *Prince Of Persia* did was create a sub-genre of 2D platform games, which was continued by the likes of *Heart Of Darkness*. This 2D side-scroller had similar gameplay, with the main character walking, jumping, climbing and crawling through levels, attacking any enemies that he came across. This game helped keep the sub-genre alive.



Assassin's Creed

- **Developer:** Ubisoft Montreal
- **Publisher:** Ubisoft
- **Platforms:** PS3, Xbox 360, PC
- **Year:** 2007

The mobile game by Gameloft was incredibly similar to the debut *Prince Of Persia* game, albeit with more features. Indeed, Gameloft has been inspired by *Prince Of Persia* with other titles too. But *Assassin's Creed* on consoles was inspired by the second *POP* trilogy, beginning with *The Sands Of Time*, all of which may not have existed without Mechner's original.



substantial quality assurance. The bugs were there to see and the reviews were scathing, although some did see the good points.

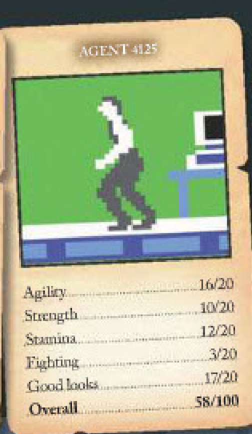
The third game followed the same side-scrolling premise of the previous titles and it had a similar story. There were guards, traps and ledges, and the only real difference between the 3D version and the previous two was that third dimension. To Red Orb's credit, it managed to effectively translate the gameplay of Mechner's first two efforts to a 3D world, and the level design was actually solid. Commentators praised the pace of the game and felt the graphics – aside from the characters – did the levels justice. That was ironic given that the hallmark of the first two games was the fluid nature of the Prince. GameSpot's Ron Dulin quipped: "The motion-captured animation looks great, except when the Prince runs up stairs or ramps, at which point he looks like an old man who just doesn't have it in him any more. Then again, it's been ten years since he first took to adventuring, so perhaps we should give him a break."

Reviewers pulled the controls apart. They were unresponsive – unforgivably so at times. And the camera perspective was poor, fixed behind the Prince and obstructing the view of obstacles. It also made combat difficult. There was more criticism too: many didn't like the voice-acting, believing it to be lacking authenticity. In finally giving the Prince a voice, it seems most wanted to go back in time to the period when he was mute. Above all, Mechner was not involved in the project except in a consultancy role. He had been to film school and had shot the short documentary *Waiting For Dark*, which looked at the terrible living conditions in Havana in Cuba, and that is where his ambitions appeared to be heading.

"The third game was a development that Brøderbund decided to do internally," says Mechner. "At that point, I was already more into films. I'd just done *The Last Express*, which was a different kind of game, and basically *Prince Of Persia 3D* wasn't a project that I spearheaded. Film was where I was at."

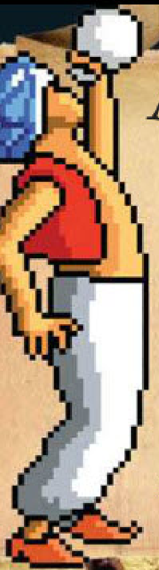
Mechner did, however, play the game, although he admits to not getting past the second level. But commercially it was a success, actually going gold. Not that Mechner was all that enamoured by it. He instead spent time in the late Nineties and turn of the century producing another documentary, *Chavez Ravine*, which looked at how a Mexican-American village was bulldozed to make way for the Dodger Stadium in Los Angeles.











A to Z of Prince of Persia

A is for Alter Egos. Throughout the series, the Prince bumps into alternate forms of himself, from the Shadow in the original and sequel to the Sand Wraith in *Warrior Within* and the Dark Prince in *The Two Thrones*.

B is for Brøderbund. The first two games of the series were published by Brøderbund, before the company's acquisition by The Learning Company. Its collapse and subsequent rush to get the game out was behind the lack of polish on *Prince Of Persia 3D*.

C is for Combat. There is much swordplay to be had throughout the games of the *Prince Of Persia* series. Jordan Mechner watched Errol Flynn movies in order to perfect the technique on screen.

D is for Dagger. The Dagger of Time allows the Prince to manipulate time itself by harnessing the power of the Sands of Time.

E is for Exploration. One of the main aspects of the *Prince Of Persia* games is to explore the world around you. This increased in importance as the series and its underlying technology progressed.

F is for Film. Directed by Mike Newell, produced by Jerry Bruckheimer, starring Jake Gyllenhaal and written by *Prince Of Persia* creator Jordan Mechner, the movie is a summer 2010 blockbuster.

G is for Graphic Novel. Not content with the games and films, Jordan Mechner has also produced a series of *Prince Of Persia* graphic novels.

H is for Hourglass. From the first game in which you had 60 minutes to rescue the Princess, this basic symbol of time has been ever-present in the series.

I is for Indiana Jones. Right from the start, the Prince was influenced by the iconic Dr Jones – the first ten minutes of *Raiders Of The Lost Ark* in particular – with the emphasis being on action and exploration.

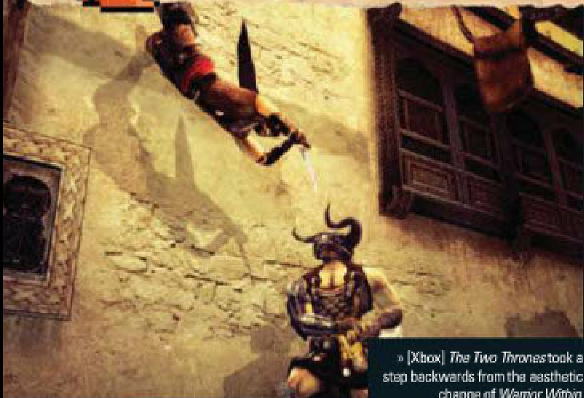
J is for Jordan. The entire *Prince Of Persia* premise was thought up by wannabe filmmaker and games programmer Jordan Mechner in the late Eighties, when he was 21.

K is for *Karateka*. It may not have been part of the *POP* world, but this martial arts game was the title that paved the way for the entire *Prince Of Persia* franchise.

L is for Love. The Prince's infatuation with the Princess, who was all too easily locked up, was the driving force behind our hero's actions.

M is for Magic Potions. There are many ways to die in the older *Prince Of Persia* games, so being able to quaff a heath-rejuvenating magical smoothie was like a gift from the gods.

N is for No Name. In the games, the Prince is known simply as 'Prince', but that has changed in the movie, with our hero given the moniker Dastan.



» [Xbox] *The Two Thrones* took a step backwards from the aesthetic change of *Warrior Within*.

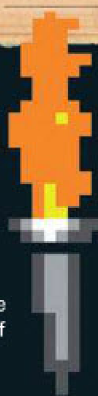


Prince Of Persia 3D remains, to some extent, an embarrassment for him.

"I knew the team and I sort of saw what they were doing, and their initial plan sounded exciting," he says, diplomatically. "They had high hopes for the game and so I hoped that it would work out, too. But it was a very difficult development – they had a lot of setbacks. My impression was that I don't think the game really fulfilled the criteria that the team had for it. For myself, I only got up to the second level when I played it. I'm sorry to say that was partly because of a technical problem. The PC that I had at the time just wasn't powerful enough to keep up and the game had certain technical problems, which stopped me from playing it. I meant to get back and play the rest of it but I never did."

Mechner's lack of proper involvement in the third game has meant that he has tried to erase it from the storyline. For him, the game has become an irritation of sorts and one that he is keen to erase. "I don't really see that as part of the *Prince Of Persia* collection," he says. "It was a bit of a one-off. Overall, for me, the inspiration of the Prince was always kind of Errol Flynn, Douglas Fairbanks, or Indiana Jones in *Raiders Of The Lost Ark*. He was just a type of action hero who got his personality from the turmoil that he went through. It wasn't a dialogue or facial expressions. It was very much that he expressed his personality through movement and when I look back, the third game didn't really work."

Up until this point, Mechner, in his desire to break away from gaming and try new things, failed to see what he actually had. He confesses that he needed to recharge his batteries by trying new things, but it meant he lost sight of the franchise he had built. In 2001, however, he received a call from Ubisoft, whose president wanted to discuss the possibility of recreating the game for a new generation. Mechner wasn't sure. He had felt uneasy about *Prince Of Persia 3D* and, if he

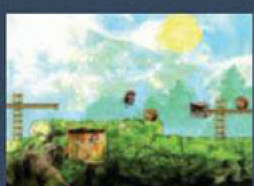


agreed at all, he wanted to create something amazing. Without that guarantee, he was wary of agreeing to anything, but he did fly to Paris and discuss the possibilities.

"I received a personal call from Yves Guillemot [Ubisoft's president]," he recalls. "Ubisoft had just acquired the rights for the name from Brøderbund and I think one of the motivations was this opportunity to bring it back. But I still had the intellectual property rights. It's fair to say at that time the game was a classic, but nothing was being done with it. I'd seen *Rayman*, which I thought was an absolutely brilliant game, and I thought the *Prince Of Persia* game could be done for a new generation of consoles, you know?"

Mechner gave the project the green light but on the provision that a great team would be assembled. A squad was put together in Montreal and the producer joined Mechner at E3 in LA to discuss the project further. "It was strange for me to go back to the project," says Mechner. "A lot had happened from the time I had put the second game together. I went from *The Last Express*, a three-year project that involved forming a team, starting a company, and something that was really a labour of love for all concerned. And I think also at that time the games market had changed so that the side-scrollers had given way to games like *Tomb Raider*.

Stories through time



Braid

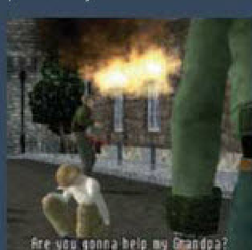
- **Publisher:** Microsoft Game Studios
- **Developer:** Jonathan Blow
- **Platforms:** Xbox 360, Windows, PS3, Mac OS X
- **Year:** 2008

Jonathan Blow's 2008 XBLA game is, like *Prince Of Persia*, about a man searching for a kidnapped princess. But while the story is centred on personal discovery and insight, it gives players the ability to manipulate time. You can rewind to points before death or use time to solve puzzles. It's a great, retro-looking 2D platformer.

Shadow Of Memories

- **Publisher:** Konami
- **Developer:** In-house
- **Platforms:** PS2, Windows, Xbox, PSP
- **Year:** 2001

This 2001 cult classic PS2 title put you in the shoes of Eike Kusch, a man who died at the start of the game. After his spirit gains the ability to travel through time, he goes back and forth to 2001, 1980, 1902 and 1580, looking for a way to prevent his own death in the present day.





The Chaos Engine

- **Publisher:** Renegade Software
- **Developer:** Bitmap Brothers
- **Platforms:** Amiga, Atari ST, Amiga CD32, DOS, Risc OS, Mega Drive, SNES
- **Year:** 1993

Released in 1993 and created by The Bitmap Brothers, *The Chaos Engine* saw the technology of a stranded time-traveller fall into the hands of an inventor, who then produces an alternate timeline and a machine that can fiddle with matter, space and time, resurrecting all sorts of ghastly beasts.

The Legend Of Zelda: Ocarina Of Time

- **Publisher:** Nintendo
- **Developer:** In-house
- **Platform:** Nintendo 64
- **Year:** 1998

Using the Master Sword in this 1998 Nintendo game, you can travel between two time periods, but there are also many opportunities to teleport to previously visited locations in a game that, by the nature of its title, suggests that you can use time and space as your ultimate playground in this amazing, classic adventure.





Time Zone

- **Publisher:** On-Line Systems
- **Developer:** Roberta Williams
- **Platforms:** Apple II
- **Year:** 1982

Written by Roberta Williams for the Apple II, *Time Zone* let you travel through time and solve puzzles. Input was via text but you were still thrilled to 'meet' some of history's most celebrated figures from Julius Caesar to Cleopatra. If Roberta could go back in time, maybe she wouldn't have sold the game for a whopping $99.

O is for Okay. Mechner confesses that he was just an "okay" programmer and says that he was glad when the industry moved on to allow him to concentrate on plot and character development.

P is for Portable – and Prince, of course. But as well as being a hot computer and console title, games have also appeared on the likes of the Game Boy, Nintendo DS and PSP.

Q is for Quality. Jordan Mechner didn't have the appetite for the 2003 reboot and insisted that it could only go ahead if the quality bar was at its highest. The game and its success reignited his passion.

R is for Rotoscoping. The first *Prince Of Persia* game amazed players with the fluidity of the main character, producing using the animation technique of rotoscoping, based on tracing footage of live-action movement.

S is for Sand. As in *Sands Of Time*. All good franchises get a reboot and so Ubisoft's *Sands Of Time* emerged in 2003 to revitalise the series.

T is for Traps. No *Prince Of Persia* game is complete without traps. Whether it be spikes, perilous gaps, circular saws, giant jaws or a horizontal blade, our Prince would wince at the mere thought.

U is for Unlock. If you have a copy of *The Sands Of Time* to hand, you can unlock the original *Prince Of Persia* game and play. On the Xbox version, you can also blast through *Prince Of Persia 2*.

V is for Vizier. The Prince is never too far away from being antagonised by an evil and persistent Vizier, usually trying to sweep the love of his life away from him and use his powers to turn the world against our hero.

W is for World Records. *Guinness World Records* says that *Prince Of Persia* was the first game to include motion-captured animation, and it was the highest rated platformer on the PS2 and Xbox.

X is for XBLA. Ubisoft remade the original *Prince Of Persia* game in 2007 with better graphics and a few gameplay tweaks. Play it on Xbox Live Arcade or PlayStation Network.

Y is for Yes. When Chris White almost single-handedly converted *Prince Of Persia* to the SAM Coupé in 1992, not telling anybody that he was doing it until it was almost done, it was granted a release by an impressed Domark.

Z is for Zillions. Well, okay, millions. The original *Prince Of Persia* sold 2 million copies worldwide.





But the more I heard, the more I felt it was right to bring it back and do it differently."

Prince Of Persia: The Sands Of Time was released in 2003 for the PlayStation 2, Xbox, GameCube and PC. The main character displayed incredible fluidity and it was set in a sun-bathed mystical 3D Middle East. The action revolved around the Dagger of Time, which the Prince steals in order to gift to his father, but an evil vizier gets him to unlock it, an hourglass is unleashed, and chaos reigns.

There was no doubting that the Prince was back, and he was looking better than ever. Death-defying leaps and a control system that was forgiving made for a slick, high-energy action game that had gamers in awe. The linear gameplay led the Prince down a particular path yet it distracted little, mainly because the gamer was more interested in the gravity-defying stunts.

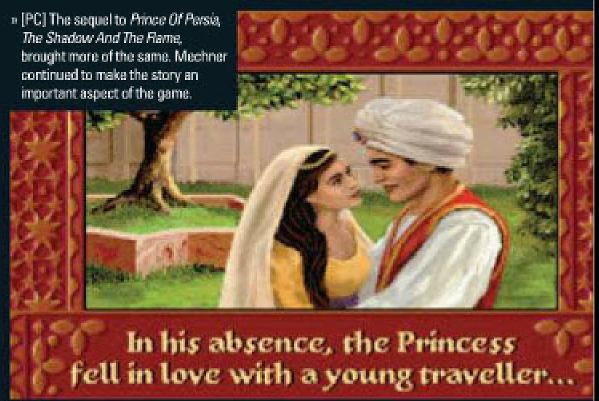
The game also celebrated its roots, with the original *Prince Of Persia* included on the disc. "I loved *Sands Of Time*," says Mechner. "I felt it was very true to the original, while at the same time being a game that could stand on its own merits."

A year later and Mechner's thoughts turned once more to film. He started to write a screenplay and put together clips from the game to illustrate how it would come together. This was later pitched to Hollywood producer Jerry Bruckheimer, who snapped up the movie rights and pushed the project forward. For Mechner it was the final realisation of a dream – the movie he so wanted all his life. And it was made possible through his perseverance with gaming, a medium that he had grown to love immensely.

"I worked very closely with Ubisoft on *Sands Of Time*. I was moved to Montreal for the last part of the development and I worked as a game designer and writer, so I was very deeply and creatively involved in it. But after the game was released, I moved to LA to start pitching the game as a movie project. It meant I wasn't really that involved with the second game in the series, *Warrior Within*."



» [360] *The Forgotten Sands* returns to the *Sands Of Time* trilogy and has so far been received positively.



» [PC] The sequel to *Prince Of Persia*, *The Shadow And The Flame*, brought more of the same. Mechner continued to make the story an important aspect of the game.

Warrior Within was released in 2004, and it was followed by the third game in the second trilogy, *The Two Thrones*, which debuted in 2005. Mechner was, by now, fully immersed in his film project. "I think as the second trilogy progressed, the games became a lot darker, certainly with *Warrior Within*," he says. "I felt like *The Two Thrones* was sort of a step back and halfway between *Sands Of Time* and *Warrior Within* in terms of tone."

Both sequels were massively popular, building on the success of *Sands Of Time*. Some felt that *Warrior Within* lost some of the charm of the first game, but the title had longer playing time and the combat was less repetitive. The story picked up from the end of *Sands Of Time*, and the time-travelling element was at the forefront – the backtracking and flips forward adding hours.

The Two Thrones wrapped things up neatly and the latest game, *The Forgotten Sands*, returns to the original trilogy and sits in between *Sands Of Time* and *Warrior Within*, where there was a seven-year gap in the plot. Time has been the hallmark not just of the series, but Mechner's life too.

And yet that is not everything. In 2008, Ubisoft released a reboot, which has now seemingly been abandoned. Called, simply, *Prince Of Persia*, it was deemed too simplistic by some gamers and yet was also a great success. "I thought it was quite beautiful in some ways," says Mechner. He then pauses and reflects. "I will say that *Prince Of Persia* is the project that I've been most deeply involved with, as a writer and creator. When I look at the series as a whole, there's a sense of awe. If I could have had a Dagger of Time back in 1985 when I started making the first game, if I'd seen that all this stuff was coming, I would have been amazed because it's more than I could have dreamed of."



Although the SNES was no stranger to shoot-'em-ups, it lacked the sheer variety of titles that Sega's Mega Drive offered. On the other hand, it did have Konami's *Axelay*, a truly wonderful shmup that heavily utilised the SNES's Mode 7 graphics mode to create an absolutely stunning shooter that Mega Drive owners could only look at with eyes full of envy. Now an impressive 17 years old, *Axelay* is one of those critically lauded titles that never received a sequel, meaning that unless you have access to the original game, Konami's innovative shmup could well be lost forever. Join us, then, as we look back at one of the SNES's greatest shooters.



Arachnatron
Axelay's very first boss immediately impresses you due to his menacing size and the fact that he's one tough nut to crack. Aided by spider drones and an electric net that slows you down, you need to take out his eye in order to defeat him.



T-36 Towbar
Obviously based on *RoboCop*'s ED-209, this mechanical marvel awaits you at the end of Level 2. Spraying bullets from the minigun situated below his head, the metallic beast tries to obliterate you with a huge laser.



Aquadon
Yes, the name is rather naff, but Aquadon proves to be a rather worthy foe for you. Heavily plated, armed with a devastating laser and with the ability to fire deadly projectiles, this ugly fish boss puts up one hell of a fight.

MEMORABLE MOMENTS

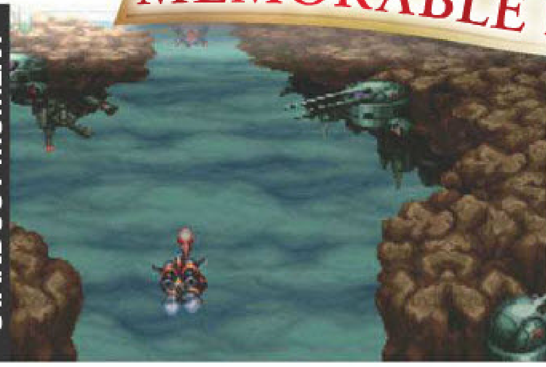
WHY IS IT A CLASSIC?



Everything but the kitchen sink

Sure, *Axelay* employed some of the best visuals to ever appear on the SNES, but the real beauty of Konami's beast was that it was able to crib from a vast array of different games and other media and still feel refreshingly new. Konami relentlessly plundered everything, from *R-Type* to *RoboCop*, not to mention borrowing heavily from its own shooter library, when creating *Axelay*. The end result is a truly glorious shmup that, rather than coming across like some Frankenstein shooter, instead feels like a fabulous homage to the once-popular genre, making it all the more disappointing that it's never received a sequel.

STANDOUT MOMENT



My eyes! My eyes!!!

Even now, *Axelay*'s most impressive moment is when your ship first jets off into the screen and you're confronted with some of the best use of Mode 7 to ever appear on the SNES. It was jaw-droppingly amazing back in 1992 and it still manages to impress today. Rumoured to be one of the last games that some of Treasure's staff worked on, the sheer scope of *Axelay*'s pseudo-3D stages still fills us with impressed awe. Konami was on fire during its 16-bit days, and *Axelay* remains a fitting testament to the company's sheer ingenuity.

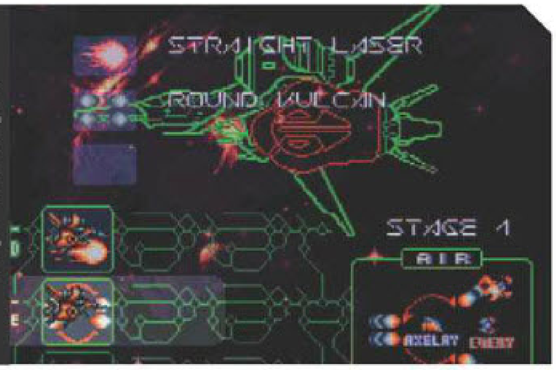
BEST HOMAGE



Bio-mechanical goodness

Axelay steals from many great shooters, not to mention a few films. While the ED-209 clone found at the end of Stage 2 is perhaps the most obvious choice, we've actually plumped for the whole of Level 4. *R-Type* is one of the most influential shooters of all time, so it's hardly surprising to discover that *Axelay*'s fourth stage takes multiple ideas from Irem's hardcore sequel. Bio-mechanical looking aliens? Check! An organic-looking water stage? Check! Freaky, brutally tough boss? Check! It's slightly easier to complete than the similar stage found in Irem's game, but only just.

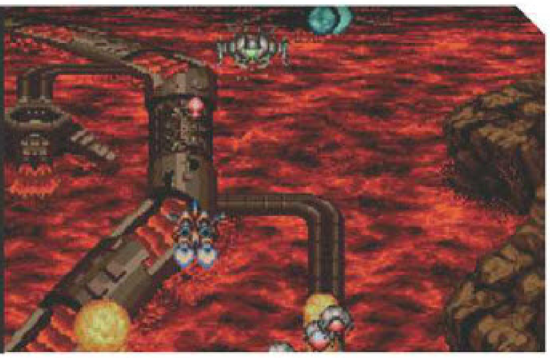
BEST WEAPON



Surrounded by powerful friends

Interestingly, *Axelay*'s best weapon is given to you right at the beginning of the game. The Round Vulcan is a powerful cannon that can fire shots off in a 360-degree radius, providing you with great cover on *Axelay*'s 3D stages. On 2D levels it performs admirably as well, covering fire above and below your craft. This makes it the perfect weapon for taking out gun emplacements or hard to reach enemy craft. Interestingly, by taking your finger off the fire button you can even adjust the direction it fires in, making it the most essential weapon in the game.

BEST STAGE



Some like it hot

Yes, it's a massive cliche, but Stage 5 is one of the most sensational levels to ever appear in a 16-bit shooter. Barrelling into the screen, your eyes are assaulted by a sea of vivid red, so searing it feels like it could scorch your retinas. Wisps of flame leap from the lava and *Dune*-like giant worms do their best to take down your fighter, while jets of flame gush forth, threatening to destroy your ship with a single hit. Add in huge flaming dragons that appear to have been borrowed from *Gradius* along with a truly scintillating soundtrack and it's hardly surprising that this is the first level that *Axelay* fans always tend to remember.

BEST BOSS

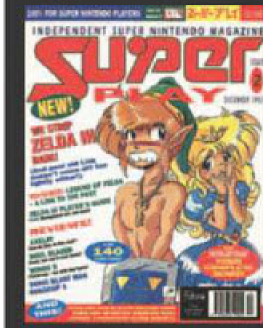


"I am the god of hell fire"

If you were impressed with the pseudo-3D lava effect of Level 5 then just wait until you meet the magnificent mayor that waits for you at the end of that fiery stage. Virtually filling the screen with his huge bulk and intent on swatting you with his gigantic hands, Wayler is an imposing foe seemingly born from both fire and metal. Worry not, though, for despite his sheer size, the huge elemental is surprisingly easy to defeat if you know what you're doing. If you don't, then simply concentrate your fire on his mechanical heart whenever he foolishly exposes it. That'll teach him.



What the press said… ages ago



Super Play Issue 2 85%

"Graphically awesome. But even *Axelay*'s greatest fans will have to admit that, gameplay-wise, the whole thing is just a little thin. A really nice game to have, though."

What we think

It's rare that we disagree with *Super Play*, but stating things like six levels is too short and a lack of depth is just laughably wrong. *Axelay* is a challenging shooter that, even after 17 years, still has us wanting more.



IN THE KNOW

- **PLATFORM:** SNES
- **DEVELOPER:** KONAMI
- **PUBLISHER:** IN-HOUSE
- **RELEASED:** 1992
- **GENRE:** SHOOT-'EM-UP
- **EXPECT TO PAY:** £15+

NOMAD



SPECIFICATIONS

Year released: 1995

Original price: $180 (never released outside US)

Buy it now for: $60-$100 (depending on condition)

Associated magazines: Mean Machines Sega, Mega, Sega Pro, Sega Power, Sega Force, Sega Zone, Go! Handheld

Why the Nomad was great… The first true 16-bit handheld, the Nomad was as much a portable Mega Drive unit as it was a handheld games system and is the best official Mega Drive variant Sega ever released

"NOMAD: (MEMBER OF TRIBE) ROAMING FROM PLACE TO PLACE FOR PASTURE; WANDERING." WE COULDN'T THINK OF A MORE FITTING MONIKER FOR SEGA'S SECOND HANDHELD MACHINE. AS WELL AS BEING A PORTABLE GAMES MACHINE, SEGA'S FINAL ENTRY INTO THE HANDHELD MARKET WAS A MEMBER OF A BIG TRIBE OF UNSUCCESSFUL MEGA DRIVE VARIANTS. STUART HUNT DISCOVERS WHAT WENT WRONG FOR SEGA'S AMBITIOUS HANDHELD



We're not sure anyone from Nintendo has come out and said it yet, but Sega won that notorious 16-bit playground spat. If you were on the side of the blue hedgehog, well done, give yourself a pat on the back. What may serve as a shred of comfort to some disappointed SNES fans reading this, though, is that it was the only console war from which Sega emerged victorious during its time in the videogame hardware market. And while we really don't want to keep banging on about the tale of the Mega Drive – we've covered it in two features now – it is important to explain how significant the console was for Sega, to appreciate why it was so desperate to protract the machine's life for so long.

In brief, the Mega Drive was the machine that turned the tide for Sega by helping it to overtake the then seemingly infallible Nintendo. It was also the first machine to make the industry wake up to the fact that it is in the West that the battle for videogame supremacy is either won or lost. With a successful machine firmly bunkered down inside millions of homes around North America, Sega soon realised that its 16-bit machine would give it the edge in the next console war. With this in mind, Sega thought it would be better to keep the Mega Drive alive with various life-support monstrosities rather than support the Mega Drive in a soft capacity and concentrate efforts on a new machine. But with every disastrous misstep and commercial flop that Sega pushed tentatively out on to an eager and passionate market, customer confidence dropped and its reputation never recovered.

To put Sega's obsession with the Mega Drive into perspective, before releasing the Nomad, the developer had already released a quite astonishing seven separate variants and add-ons for the Mega Drive: three versions of the unit itself (the last variant, the Genesis 3, is native to North America only); two add-ons in the form of Mega CD and 32X; the Multi-Mega; and finally the Mega Jet, a screenless portable Mega Drive unit developed by Sega for in-flight entertainment on Japanese airlines. There were also three official 'clone' machines by other manufacturers saturating the market place even further: the Pioneer LaserVision variant, which cost a staggering $970 and was one of the most expensive pieces of Sega hardware to ever find a release; the quirky Aiwa Mega CD portable stereo; and finally the Wonder Mega, which was also manufactured by Pioneer.

INSTANT EXPERT

The Nomad was Sega's third handheld after the Game Gear and Mega Jet.

Launched in North America in October 1995, the Nomad retailed for $180. It had a library of over 500 Genesis games from launch and never found a release in either Japan or Europe.

The Nomad was the first true videogame handheld/TV-based console to find a release.

The machine is compatible with a surprising number of Mega Drive/Genesis peripherals but wasn't compatible with either the Mega CD or the 32X.

The Nomad was the spiritual successor to the Sega Mega Jet, a handheld hired out for in-flight entertainment on Japanese airlines.

Like the PC-Engine GT, the Nomad is one of the very few games machines to never receive an exclusive game.

Originally codenamed Project Venus, the machine was then re-christened the Nomad (with hindsight, a far more befitting moniker).

While the Nomad is one of the lesser-known consoles to come charging from the Sega stable, it is still an important and ambitious bookend to its 16-bit legacy, and serves as a memorable last stand for Mega Drive's commercial life. Had the Nomad been the first in that long line of abject Mega Drive failures by Sega – for reasons we'll touch on later – it's conceivable that the Nomad may well have been a far greater success than it was. For one, it would have certainly seen Sega repeat history by releasing a dramatically more powerful machine to market (this time in a handheld capacity) quicker than Nintendo. Also, some of the issues that haunted the Nomad in its short life may not have even existed.

Like the Game Gear, the Nomad was essentially a compact version of a larger TV-based machine. Although based on the technology of Sega's 8-bit Master System, the Game Gear is actually the more powerful console, boasting a far greater colour pallet – it can display over four thousand colours as apposed to the Master System's paltry 64. And like the Mega Jet, the Nomad was based on the technology inside the Mega Drive.

In terms of specs and performance, the Nomad is practically identical to its 16-bit TV-based cousin. Running from the same Motorola MC68000 CPU, and equalling the machine in memory, graphics and sound output, the Nomad was the most powerful handheld of its time. Its only real competition at the time of its release were the Atari Lynx and PC-Engine GT, both essentially 8-bit machines that housed two co-processors to bump up the quality of their graphics and sound.

Unlike the Game Gear, however, Sega's decision to base the Nomad around the guts of a TV-based console wasn't down to time restraints and a race to get the machine to market, but rather to capitalise on the strong install base the Genesis had garnered in North America by tempting Americans with Genesis game collections to part with more money. What is particularly notable about the Nomad is that it is the only handheld/TV-based console hybrid to find a release, because while NEC's PC-Engine GT played Hu Cards, unlike the Nomad, it couldn't be hooked up to a television.

The gestation of the Nomad can be traced right back to Sega's first foray into 16-bit portable gaming: the Sega Mega Jet. Licensed out by Sega for use on Japanese airlines, the Mega Jet took the shape of an elongated six-button Mega Drive controller but with its own cartridge slot in the top. To play games, the Jet was plugged into small armrest monitors on aeroplanes, and passengers could either play their own games or select one of the four Sega titles packed into the unit. That the device relied on a mains adaptor and a television meant that, other than for the unique job it was designed to do, in a portability sense the Jet was bit of an oddity. Nonetheless, in 1994 Sega released small quantities of the machine into Japanese department stores, and, predictably, like the Mega

NOMAD

> " The Nomad is highly sought after among retro collectors, particularly in Europe "

Drive, the machine struggled to find appeal in the East.

However, what really made the Nomad stand apart from all those other Mega Drive variants is that it was a completely self-sufficient games machine, and therefore fully portable. The Nomad not only featured its own 3.25-inch backlit colour screen, but also included an A/V output that allowed it to be hooked up to a television using the same scart or RF lead that came bundled with the Genesis 2, and through RGB leads could display a fantastic picture. And Sega marketed it as such. The box carefully uses the term 'portable 16-bit game system' on its packaging to explain what it was and to try to differentiate it from other handhelds that were currently on the market. In terms of design, its look was lifted from Sega's first handheld: the Game Gear. It kept the dark, edgier look of its portable forerunner and comfortable concave D-pad, but boasted six buttons to accommodate the later Mega Drive releases. Of course, the console also benefited from a vast library of over 500 titles waiting on the shelves from launch. Yet despite such promise, the machine wasn't without its issues.

When the console was released, Sega had already unleashed two very costly add-ons for the Genesis. In 1992 they released the Mega CD in the US, which retailed for an astonishing $300, and two years later it unleashed the 32X on the world, which came at an additional $170. While the unit retailed for almost half the price of the PC-Engine GT ($299), coming so late in the Mega Drive's commercial life, and having already asked customers to fork out more than double the cost of the Genesis to pledge their support to Sega, the asking price of the Nomad, of course, seemed relatively steep to consumers. Furthermore, while the Nomad was compatible with a surprising number of Mega Drive peripherals – including the Mega Mouse, six-button joypads, arcade sticks, the Team Play Adaptor, the Sega Activator, Sega Channel and the Xband modem cart to offer portable internet access – Sega failed to make the machine backwards compatible with either the Power Base Convertor, Mega CD or 32X add-on.

This meant that devoted Sega fans could only play Genesis carts on the machine while the 32X and Mega CD games they had more recently shelled out for were left out in the cold. Moreover, this would have undoubtedly sent mixed messages to the consumer about the future of both the Mega CD and 32X, which were already struggling in the marketplace at that time. And the problems didn't end there. Like the GT, the Nomad's hi-res coloured LCD back-lit displays were notorious for blurring when displaying fast-moving games, and because of its small screen, games with generally small sprites or tiny text, were often difficult to play. While the Nomad's high-resolution screen did allow Mega Drive games to look better than ever, in games like shmups, where the action scrolls quickly, the screen was prone to blur and lose definition. The screen was also one of the biggest factors behind the handheld's meagre battery life, which

» [Mega Drive] *Comix Zone* was used to promote the Nomad and released around the same time.





The Game Genie Trick

Apparently, one way to solve the issue of some early third-party Mega Drive games not working on the Nomad is to use the 'Game Genie Trick'. It basically requires you to plug the problem cartridge into a Game Gear while it's in the 'off' position. The Game Gear is said to lend the cart its own checksum, bypassing the regular one inside the cartridge that the system doesn't like all that much. Admittedly, we've not tried this ourselves, so we can't be 100 per cent sure this method works. In principle, though, it sounds like a reasonable way to overcome the checksum issue said to be at the root of the problem.

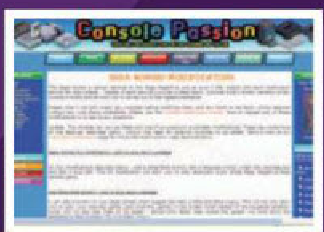






State Of Play

Generally, importing games for handhelds requires far less hair-pulling than it does for TV-based consoles. Most handhelds are multi-region and require no hacking to play games from any territory. The Nomad, however, is one of the few handhelds, along with the NEC PC-Engine GT, to include region lockout. As the Nomad is essentially a portable version of a larger home console, all security measures are passed down to the machine, likely why it's known to struggle when playing some third-party software. As a result, out of the box, the Nomad will only play Genesis carts. However, it is possible to mod the machine and skirt the problem. Console Passion offers a full modification job for just £25 and that price includes a 50Hz/60Hz toggle and language switches to boot. So if you're desperate to play classics like *Yu Yu Hakusho* on the go, visit **www.consolepassion.co.uk** for more details.





» The appearance of the Nomad was clearly influenced by the Game Gear.



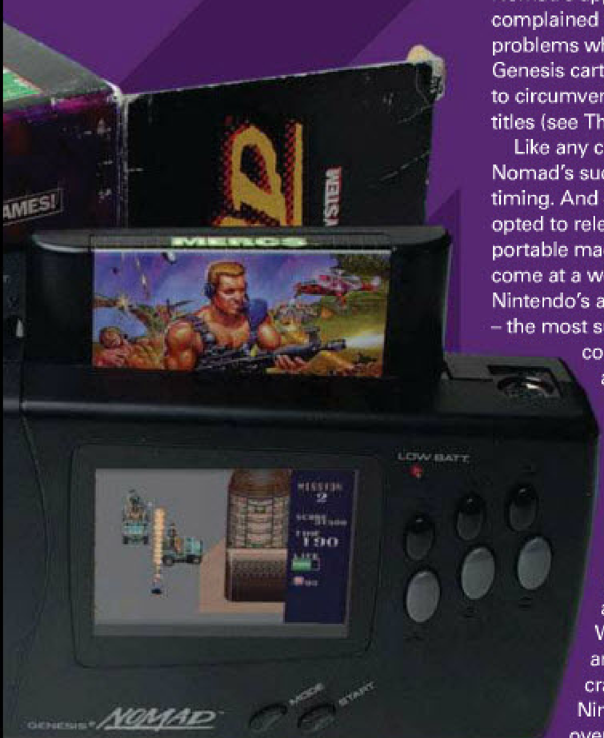


» The Aiwa Mega CD/CD Player, one of the most bizarre Mega Drive variants there is.





» [Mega Drive] Say what you like about the Nomad, it's the only legal way to play *SOR2* on a plane.



offered just three to four hours of juice from AA batteries. And while a rechargeable battery pack and A/C adaptor was made available for the unit, its paltry four hours was clearly a contributing factor to the mounting problems that were diminishing the Nomad's appeal. Customers also complained that they experienced problems when trying to run early Genesis carts, although there is a way to circumvent the problem in some titles (see The Game Genie Trick).

Like any console release, the Nomad's success relied heavily on timing. And cruelly, the time Sega opted to release its sophomore portable machine could not have come at a worse time. In 1995, Nintendo's all-conquering Game Boy – the most successful videogame console of all time – was about to receive a game that would re-ignite interest in the then eight-year-old handheld. Working with fellow videogame developer Game Freak, Nintendo released *Pocket Monsters* (or *Pokémon* as it is known in the West) on the machine and unleashed a global craze that further enforced Nintendo's vice-like grip over the handheld market. Furthermore, it was in this year that the Sega president at the time, Hayao Nakayama, announced that his company would be ceasing support for the Mega Drive/Genesis. The company was turning its efforts to its new 32-bit console, the Sega Saturn, which had already been released in North America that summer, a few months before the launch of the Nomad. This was a gross misjudgement on Nakayama's part. It's believed that Sega's decision to drop the 16-bit market outright, thus handing it over to Nintendo, cost the company millions of dollars. Not only had they further enraged customers, but also, in dropping the Mega Drive so soon after releasing yet another newfangled variant of the machine to market, Sega had also handed its rival two years' worth of trade inside a market that it could now monopolise. And Nintendo responded duly with late Super Nintendo releases including *Donkey Kong Country 3*, *Doom* and *Harvest Moon* in the US, plus a slew of other titles launched in the US between 1996 and 1997. This, coupled with Sony throwing its hat into the videogame hardware ring with Sony's PlayStation in September 1995, was the final nail in the coffin for the Nomad in the US. It had seen one of the quickest demises of any high-profile videogame handheld in history, and by 1999, stores of Toys 'R Us were trying to shift stocks of the console for as little as $50.

Owing to its low numbers, US isolation, and short commercial existence, today the Nomad is highly sought after among retro collectors, and particularly by enthusiasts in Europe. With prices fetching between £90 to £150, depending on condition, the Nomad has increased in value, and with a library brimming with games, it's still very much a handheld oozing longevity.

Had Sega cottoned on to the concept of the Nomad before the Mega Drive 2, and rolled it out as a true successor to the Mega Drive – marketed it as the portable console/handheld hybrid it was – then perhaps Sega may have succeeded in its original goal to prolong the life of the Mega Drive in the US. After all, the portable benefits of the Nomad would likely have been a popular selling point for the type of gamer among which the Genesis was popular. Sega had marketed the Genesis at teenage and more adult gamers, so releasing a games console that students and teenagers could easily throw in bag and ferry to friends' homes would have undoubtedly been an attracting prospect. It's ironic, then, that Sega's last hurrah in its bid to prolong the life of the Mega Drive could well have been its best.



NOMAD PERFECT TEN



01

DR ROBOTNIK'S MEAN BEAN MACHINE

» **RELEASE:** 1993
» **PUBLISHER:** SEGA
» **CREATOR:** COMPILE
» **BY THE SAME DEVELOPER:** ALESTE

01 **If you're looking** for an excellent puzzle game to play on your Nomad, then look no further. Based on the *Sonic* cartoon, *Mean Bean Machine* was a *Puyo Puyo*-style puzzle game by *Puyo Puyo* creator Compile. Players battle against Robotnik's cronies in a race to match coloured jellybeans as they cascade down the screen. The game features 13 stages and a handy password system, so it's perfect for dipping in and out. Its colourful graphics and single-screen action make it great for the Nomad's display. Incidentally, there's a pretty decent version available for Game Gear.

DEVIL CRASH

» **RELEASE:** 1991
» **PUBLISHER:** TECHNO SOFT
» **CREATOR:** IN-HOUSE
» **BY THE SAME DEVELOPER:** THUNDER FORCE III

02 **We reckon that** *Devil Crash*'s Gothic pinball action is perfect for the Nomad. With simple controls (the left flipper is controlled using any button on the D-pad while the right flipper moves using a face button), take-it-in-turns two-player multiplayer, and big chunky graphics – not to mention addictive gameplay perfectly suited to short bursts – it ticks all the boxes. While Techno Soft's classic may only have one table to play on, there is still plenty of game to discover, with the main table leading you into six hidden bonus mini-tables and all sorts of freakish targets to smash. It's a must own for any Nomad collection.



02

STORY OF THOR

» **RELEASE:** 1994
» **PUBLISHER:** SEGA
» **CREATOR:** ANCIENT
» **BY THE SAME DEVELOPER:** ROBOTREK

03 **The Nomad often** struggles to display small text crisply, and games with tiny words tend to be adventure games. One RPG that doesn't fall into this bracket is *Story Of Thor*, one of the latest Mega Drive RPGs. Like *Zelda*, the hero, Prince Ali, uses the powers of four good spirits to save his kingdom from an evil ne'er-do-well. With chunky visuals, fantastic music by Sega music maestro Yuzo Kushiro and compelling gameplay, this is a classic addition to any Sega collection. While this still features a fair amount of blur, it's never anything more than a niggle.

RANGER X

» **RELEASE:** 1993
» **PUBLISHER:** SEGA
» **CREATOR:** GAU ENTERTAINMENT
» **BY THE SAME DEVELOPER:** RESIDENT EVIL CODE: VERONICA

04 **The first and** last game by Gau Entertainment, before the studio was folded into another, *Ranger X* remains one of the best looking Mega Drive titles ever. Essentially just *Cybernator* meets *Silkworm*, in *Ranger X* you pilot the eponymous assault suit, which is accompanied by a motorbike, and which the player can move independently. Hard as Charles Bronson, and just as colourful, *Ranger X* was an underplayed MD shoot-'em-up classic that, owing to its chunky visuals, works brilliantly on the Nomad's tiny screen.

CASTLE OF ILLUSION STARRING MICKEY MOUSE

» **RELEASE:** 1990
» **PUBLISHER:** SEGA
» **CREATOR:** IN-HOUSE
» **BY THE SAME DEVELOPER:** SONIC THE HEDGEHOG

05 **From its captivating** opening to its lavish cartoon visuals, inventive level design, and pick-up-and-play gameplay, *Castle Of Illusion* is a quality Mega Drive platformer that makes the transition to Nomad brilliantly. Criticised for its sedate pace compared with other classic platformers (notably those starring a certain blue hedgehog), *Castle Of Illusion* is actually more Nomad-friendly, as less blurring and colour smudging occurs during the action bits.



03



04



05

GAMES

Taking into account Nomad's small screen and those blurring issues, we recommend the very best titles to pick up for the handheld. Just make sure you have a converter for playing games from different regions



06



07


08

SPLATTERHOUSE 3

- » **RELEASE:** 1993
- » **PUBLISHER:** NAMCO
- » **CREATOR:** NAMCO
- » **BY THE SAME DEVELOPER:** TIME CRISIS

06 **Until the release** of *Splatterhouse 3*, the series was just a gory grindhouse version of Irem's *Kung Fu Master*: its hero Rick ploughing his way through scores of mutant freaks instead of guys in pyjamas to reach his love, Jennifer. For *Splatterhouse 3*, Namco tweaked the formula. Rather than work your way from one side of the screen to the other, Rick battles through mazes of rooms, looking for a doorway that will lead him to the next bit of the game. With simple gameplay and giant sprites, *Splatterhouse* lent itself brilliantly to the Nomad.

STREETS OF RAGE 2

- » **RELEASE:** 1993
- » **PUBLISHER:** SEGA
- » **CREATOR:** SEGA
- » **BY THE SAME DEVELOPER:** SHINOBI

07 **Cited by many** as Mega Drive's greatest brawler, *Streets Of Rage 2* was a magnificent sequel and Sega's answer to Capcom's arcade smash *Final Fight*, which Nintendo had secured the rights to for SNES. Sega won hands down. Pumping the original *SOR* graphics full of performance-enhancing steroids, adding characters, moves, levels, bosses, and more of that excellent Yuzo Koshiro music, it remains the ultimate side-scrolling brawler for the Nomad and just so happens to be one of the finest sequels in videogaming history.

TOY STORY

- » **RELEASE:** 1996
- » **PUBLISHER:** SEGA
- » **CREATOR:** TRAVELLERS TALES
- » **BY THE SAME DEVELOPER:** SONIC 3D

08 **Appearing late in** the Mega Drive's life (1996), *Toy Story* was one of the machine's best-looking platformers. Utilising a similar 3D graphical technique to Rare's *Donkey Kong County* to give character sprites a real pop, the game looked superb. With a variety of levels based on key scenes from the film, including a neat *Wolfenstein* FPS section set inside a grabbing machine, and a nifty racing level that was exclusive to the Mega Drive conversion. Owing to its beefy visuals and charm, *Toy Story* is a handheld gem you'll want to replay again and again.


09

COMIX ZONE

- » **RELEASE:** 1995
- » **PUBLISHER:** SEGA
- » **CREATOR:** IN-HOUSE
- » **BY THE SAME DEVELOPER:** SHINING FORCE II

09 **Released around the** same time as the Nomad and used to demo the machines on its packaging, *Comix Zone* was perfectly matched to Sega's handheld. A side-scrolling beat-'em-up set within the panels of a comic book, enemies would be drawn in front of your very eyes and the action played out against a fantastic rock soundtrack. What *Comix Zone* lacked in longevity – it only had three stages, two levels deep – it more than made up for in ambition and presentation. Sadly, like the Nomad, the game came to life a little too late for Sega to really capitalise on its quality. So it's a fitting game to be playing on a Nomad.

STREET FIGHTER II: SPECIAL CHAMPION EDITION

- » **RELEASE:** 1993
- » **PUBLISHER:** SEGA
- » **CREATOR:** CAPCOM
- » **BY THE SAME DEVELOPER:** MERCS

10 **Looking for a** one-on-one fighter to enjoy while out on the road? Then grab a copy of *Street Fighter II Champion Edition*. The Nomad's six buttons and concave D-pad are perfect for frantic sessions on *Street Fighter II*. The only problem is that to play against friends you'll need to connect your machine to a TV as fighting over the small display isn't that enjoyable. Outshined by *Street Fighter II Turbo*, the Genesis port had a few aces up its sleeve: it included the arcade attract screen, a team-battle mode and 11 speed settings.



10

SEGA NOMAD and the rest…

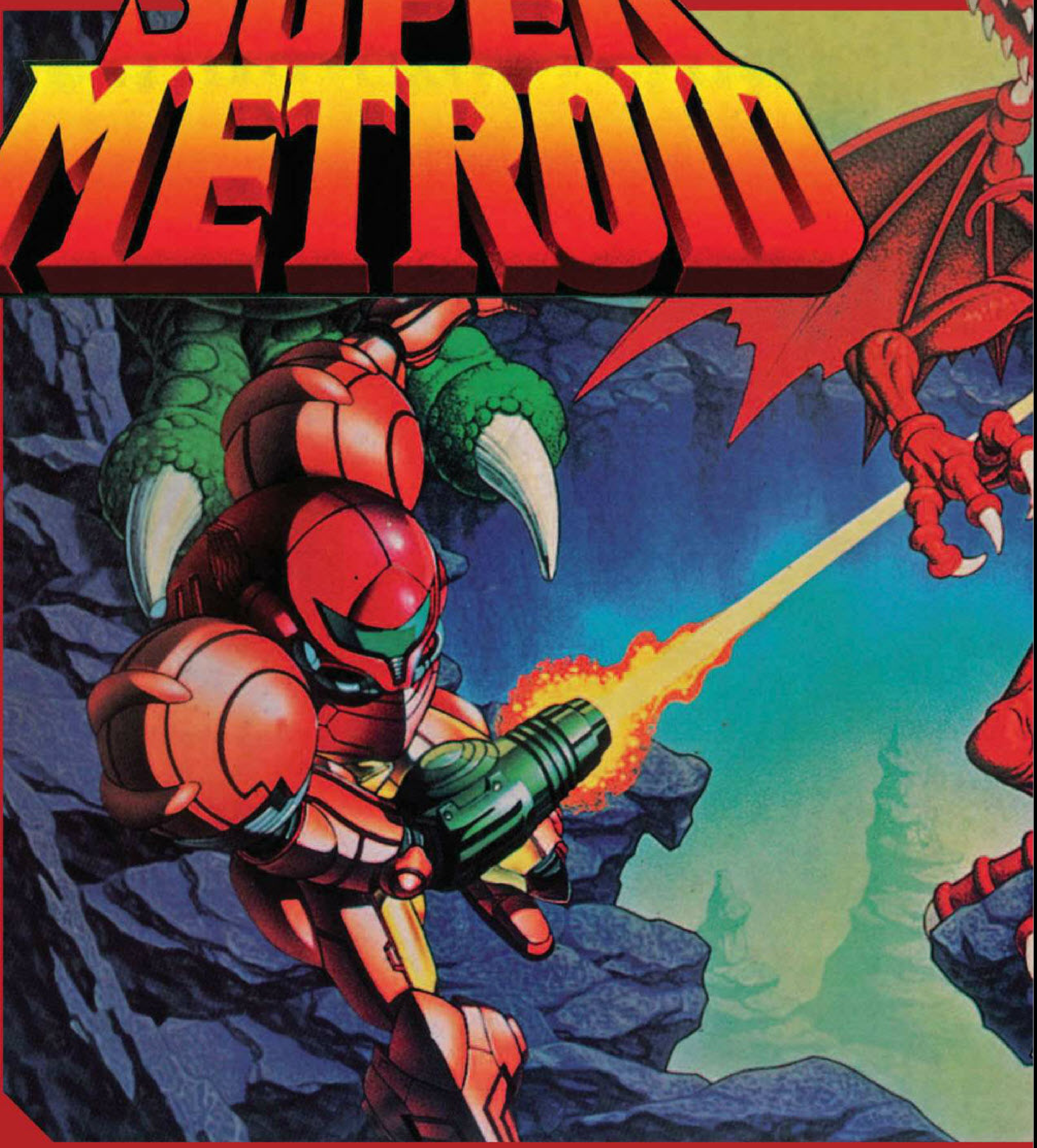
Sega's machine may have had no Nomad-specific titles, but with over 500 compatible Mega Drive games, there was still plenty to choose from

01 ALADDIN
02 SPACE HARRIER II
03 THE IMMORTAL
04 PAC-MANIA
05 CASTLE OF ILLUSION
06 STREETS OF RAGE 2
07 CALIFORNIA GAMES
08 TRUXTON
09 FORGOTTEN WORLDS
10 GOLDEN AXE
11 WARDNER
12 ECCO THE DOLPHIN
13 QUACKSHOT
14 STRIDER
15 COLUMNS
16 ALIEN 3
17 GHOULS 'N GHOSTS
18 MICHAEL JACKSON'S MOONWALKER
19 ROLLING THUNDER
20 KLAX
21 EARTHWORM JIM
22 FLASHBACK
23 BUBSY THE BOBCAT
24 RISTAR
25 THE ADVENTURES OF BATMAN & ROBIN
26 TOEJAM & EARL
27 DR ROBOTNIK'S MEAN BEAN MACHINE
28 LAST BATTLE
29 DJ BOY
30 ALTERED BEAST
31 MERCS
32 STREET FIGHTER II: SPECIAL CHAMPION EDITION
33 FANTASIA
34 PHANTASY STAR II
35 WONDER BOY III
36 SOLEIL
37 MORTAL KOMBAT II
38 FANTASTIC DIZZY
39 ALIEN SOLDIER
40 CASTLEVANIA BLOODLINES
41 SONIC THE HEDGEHOG 2
42 TOY STORY
43 BUDOKAN
44 RAMBO 3
45 ZOMBIES ATE MY NEIGHBORS
46 JUNGLE BOOK
47 DEVIL CRASH
48 HELLFIRE
49 POPULOUS
50 CHUCK ROCK
51 GUNSTAR HEROES
52 ROAD RASH
53 COOL SPOT
54 COMIX ZONE
55 RAINBOW ISLANDS
56 JOHN MADDEN FOOTBALL




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EarL is on vacation
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NEXT
STAGE 1
SCORE
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STAGE 1-5
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BALL 02
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ROUND1 STAGE1
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SCORE 10090
HIGH SCORE 100000
56

THE MAKING OF SUPER METROID







15 years on from the release of this legendary Super Famicom classic, Jonti Davies visits Nintendo HQ to scale the summit of the Metroid series with director Yoshio Sakamoto



» Sakamoto also directed *Metroid Fusion* and *Zero Mission*.

IN THE KNOW

» **PUBLISHER:** NINTENDO

» **DEVELOPER:** R&D1/INTELLIGENT SYSTEMS

» **RELEASED:** 1994

» **GENRE:** SCI-FI ADVENTURE

» **EXPECT TO PAY:** £10

Heading back up to ground level as I leave the immaculate subway at Jujo Station in the south of Kyoto, I walk through this remarkably unremarkable suburb until I see the big white block that houses Nintendo's contemporary headquarters. The gates to NCL are manned by two portly, middle-aged guards who seem to project a faintly threatening presence, which is comically undone as I notice, behind them, in the back of their little booth, a stash of NCL-manufactured toy guns apparently left over from the Seventies and a selection of Nintendo character plushes from the Famicom era. This may not be the original Nintendo HQ site, but it clearly retains the company's history like a hoarding retro gamer hangs on to loose carts.

Inside, beyond the pristine lawns and shiny entrance, I enter a marble-floored, austere world whose foyer is staffed by painfully polite and correctly spoken Nintendo officials. Eventually I'm led into a meeting room on the ground floor, where I sip the o-cha kindly provided by the demure NCL woman as I wait – and slightly nervously revise my notes and cue my Dictaphone – until a smiling, ponytailed artist type arrives and immediately makes his introduction. This is Yoshio Sakamoto, producer of *Super Metroid* back in the early Nineties and still an integral Nintendo developer today. "Hajimemashite. Yoroshiku onegai shimasu."

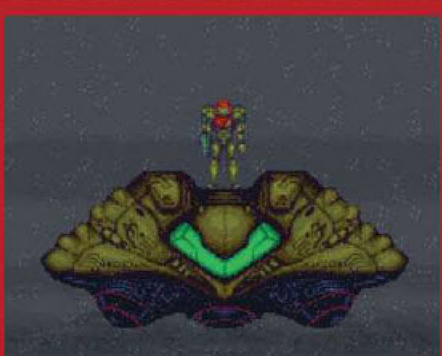
Sakamoto has brought with him a small booklet containing an overview of *Super Metroid* to aid his memory – the game was completed 17 years ago, but the *Metroid* legacy stretches back two decades – as we chat.

"To start with, there was the Famicom *Metroid* game," he recalls. Sakamoto worked on that first *Metroid* adventure, and its relevance to *Super Metroid* is particularly important because of the unchanging core concept of the 2D *Metroid* games; a core that was formed in said Famicom Disk System original of 1986.

"My boss [producer Makoto Kanoh] told me that *Metroid* was really popular in North America, so he encouraged me to produce a new *Metroid* game with the high-quality graphics that were becoming possible thanks to the Super Famicom. Of course I said, 'Yes, I'd like to try doing that.' The game design and concept had already been established before *Metroid II* was produced for the Game Boy," Sakamoto explains. "When it came to making another sequel, this time for the Super Famicom, we really wanted to see how far we could push the SFC to generate greater power of expression and enhance the appearance of the game world, all while working with a basically unchanged concept. That was our initial motivation as far as *Super Metroid* was concerned: to build on the expressiveness of *Metroid II* and achieve greater presence, something closer to a reality."

Sakamoto had nothing to do with the development of *Metroid II* – at the time his services were required elsewhere within NCL – yet that sophomore title in part shaped the plan for *Super Metroid*: "As the last scene depicted Baby Metroid being born right in front of Samus's eyes… well… there's no real explanation for that in the course of the games, but that scene was another source of incentive for us in that we wanted to follow on from that ending, linking *Metroid II* with *Super Metroid*. We were determined to keep the same world-view and maintain the continuity of the story."

Aside from the basic formula of play that was set in motion by *Metroid*,



» [SNES] Zebes was an atmospheric setting, with a variety of environments given life by the new SNES hardware.



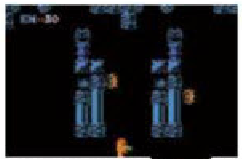
» [SNES] The iconic Morph Ball has its roots in the lo-fi NES's inability to convincingly animate a crawling Samus.

THE MAKING OF… SUPER METROID

The series

Metroid
(FDS/NES/GBA – 1986)

The Metroid series was born on disk, not cartridge. It began life as this 1986-vintage Famicom Disk System title before migrating to the silicon of NES carts for consumption in the West. Videogames' first internationally famous heroine was born here. (An emulated version can be found in the GameCube release of Metroid Prime.)



Metroid II: Return Of Samus
(Game Boy – 1992)

This monochrome curio transported Samus to the Metroid homeworld of SR388, its dramatic finale providing Sakamoto and team with a bridge into the events of Super Metroid. It may not be as pretty as its relatives, but Return Of Samus remains an essential experience for the family's admirers.



Super Metroid
(SNES – 1994)

Arguably the finest game in the Metroid series, this 16-bit creation brought 2D adventure gaming to a new level of sophistication. Super Metroid's pacing and world design are by all measures perfect, and there are so many aspects to explore here that the game retains its unique allure 17 years on.



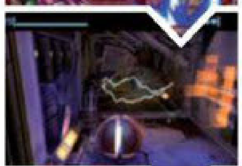
Metroid Fusion
(GBA – 2002)

Taking the Super Metroid template into the 21st Century, and again with Yoshio Sakamoto at the creative helm, Metroid Fusion found Samus once more facing the destruction of a game world. Only this time Samus was the knowing perpetrator.



Metroid Prime
(GameCube – 2002)

Retro Studios' first-person adventure spin on the Metroid template sold 1.5 million copies in the United States alone, yet it simultaneously pushed Samus Aran away from Japanese sensibilities, guaranteeing a future of Western success at the cost of Metroid's Japanese heritage. Prime's unusual perspective and restrained style of first-person play carved out a niche for Samus in the next generation, cleverly sidestepping the FPS genre to find new ground.



Metroid: Zero Mission
(GBA – 2004)

Zero Mission's retelling of the first Metroid game brought with it a Fusion-standard graphical upgrade. By this stage Samus's popularity in her homeland was at an all-time low, and sales didn't reach six figures in Japan; a shame, as Zero Mission was even better than the FDS original.



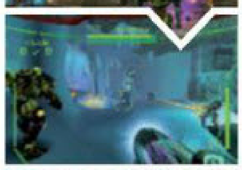
Metroid Prime 2: Echoes
(GameCube – 2004)

The first Metroid game to feature a multiplayer mode, although its inclusion was perhaps ill-advised, as it failed to really add anything of worth to the traditional single-player adventure. Echoes' greatest successes were in translating more of Samus's abilities to a 3D context.



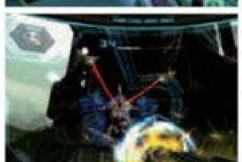
Metroid Prime: Hunters
(DS – 2006)

Developed by NST, the outfit behind titles such as Ridge Racer 64 and Wave Race: Blue Storm, Hunters was one of the better first-person DS games, with a multiplayer mode that felt more natural than that of Echoes. However, compared with joypad-controlled Metroid predecessors, Hunters' touch-screen controls resulted in a slightly lower-than-average level of overall satisfaction.



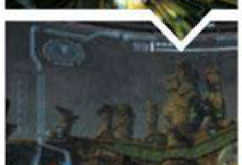
Metroid Prime 3: Corruption
(Wii – 2007)

The final release in the Prime trilogy effectively brought the modern Metroid experience closer in line with the FPS genre, combining Remote-directed shooting and relentless action.



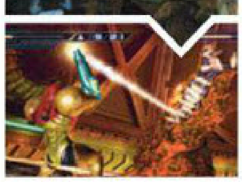
Metroid Prime Trilogy
(Wii 2009)

Although this is just an update of the original two Prime games and their Wii sequel, it's worth picking up because the GameCube versions now feature the third game's excellent motion controls.



Metroid: Other M
(Wii 2010)

The last adventure to currently star Samus was quite a departure to the series. It featured a more action-orientated bent due to the involvement of Team Ninja, but was let down because Samus had been turned into a really whiny teen.





» [SNES] *Super Metroid* brought with it *Metroid II*'s battery saves, a godsend after the first game's password system.

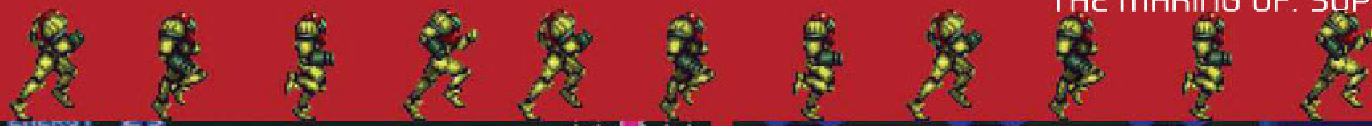
the code on that million-selling disk also plotted the aesthetic direction of the series. I suggest to Sakamoto-san that *Super Metroid* and the *Metroid* games in general don't look like 'typical' NCL games and I ask him why that might be. He sips his tea and then replies: "I think the film *Alien* had a huge influence on the production of the first *Metroid* game. All of the team members were affected by HR Giger's design work, and I think they were aware that such designs would be a good match for the *Metroid* world we had already put in place. To be honest, I've never really been clear on what is or isn't the 'Nintendo look', but as far as we were concerned, we were just projecting another image from within Nintendo – another face of Nintendo, if you like. But yes, it's a science-fiction game, so…"

Other than the artistic influence of Necronom, Sakamoto reckons that numerous games affected the style of *Super Metroid* – "I can't list them… There are just too many of them" – although he counters this by highlighting the experimental side of his team's early work: "For the prototype stage of *Super Metroid*'s development we just had a few Intelligent Systems programming staff, myself, and another [in-house] Nintendo designer. We examined what was possible in the game, and as the core *Metroid* system was already in place we considered how we could make the game easier to play, what new ideas we could incorporate, and so on… Then we drafted in lots of other NCL and IntSys developers once we got beyond that stage and into the proper work."

There has always been a complex yet mutually beneficial relationship between Nintendo, then based in Higashiyama (to the northeast of the current Minami location), and Intelligent Systems, constantly situated in the eastern Kyoto ward of Higashiyama. Sakamoto refers to the team as "IntSys" and says that it had been helping Nintendo with the *Metroid* series since the initial FDS game, "as a second-party developer". While it's fair to say that the game design and play-testing abilities of NCL's in-house staff have always been some of the world's best, Intelligent Systems' developers were on hand to provide indispensable technical know-how, particularly focused on the hardware side of things.

"IntSys has always been very capable with hardware," Sakamoto adds, "so during the experimental stage we told the IntSys programmers what kinds of things we wanted to do and verified what in reality could be done. We'd been well prepared for the move to the Super Famicom hardware, so we had some idea of what to expect before we went into it; which features we should use, and how. I think it was good that we went through the prototype stage because it gave us a base onto which the post-

"The nap room wasn't being cleaned at all. One morning staff woke us up and told us that the room smelled like a zoo"





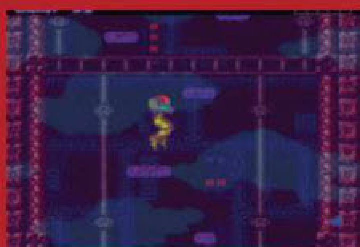


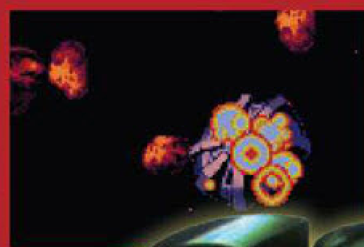
» [SNES] The open-ended gameplay meant that *Super Metroid* has become popular for speed runs.

experimental stage staffers could easily begin their work. At the time, the SFC was reputed to be difficult to develop for. Depending on how you partitioned the Super Famicom's video RAM, which looked after the sorting of image information, the scope of possibilities would change wildly. Knowing that you could diminish the VRAM's potential by poor partitioning was useful information, because it meant we could think about how certain things could or couldn't be achieved, and how we could work around those limitations. As we were migrating from the Famicom to Super Famicom, really everyone – not just Nintendo but other developers too – seemed to be having fun testing the feature set of the new hardware. That went for us, too: I remember often thinking, 'Oh, I had no idea we could even do this!' The graphics and sound were fantastic, but we were still driven by wanting to [not] be outdone by the arcade games of the time."

To a man, the developers supplied by IntSys to work on *Super Metroid* were all programmers. In spite of the various backgrounds of the *Super Metroid* team, there was apparently no NCL-IntSys rivalry; no factions, just harmony and productive co-operation. Key team members from the Nintendo side included Makoto Kanoh, the producer, the guy who instigated the project; my interviewee, Yoshio Sakamoto, who was the director in charge of game design; and Tomomi Yamane, who was the figure Sakamoto regards as having been the 'main' designer: "He was very skilled and was particularly interested in the hardware stuff, consulting with the IntSys people as to what kind of images could be displayed."

Even though the team's objective was to build on the success of





» [SNES] *Super Metroid* used the full range of special effects available to the SNES for its bosses and environments.

Metroid and *Metroid II*, only three of the original *Metroid* team, including Sakamoto himself, worked on *Super Metroid*: "The rest of the [NCL side] was made up of young trainee developers," he recalls. "Of course young people can be quite impertinent – and those on the *Super Metroid* team certainly were – but I think that's quite important in a way. These young people had enough about them to help us a lot. There were many different personalities in the *Super Metroid* team, which was a good thing. It was a harsh development environment, so I'm sure that some of the staff didn't enjoy the work, but generally the team was full of the 'Let's go for it!' spirit. I think that was partly because of the timing as well, what with the Super Famicom pushing everything to the next level."

The "next level" wasn't merely the notion of advanced graphics and sound: it was also a matter of the expansion and improvement of level design. However, Sakamoto and team were reluctant to drag *Super Metroid* into the realm of storytelling methods utilised by RPGs and other adventure games. "We really didn't want to explain things to the player using too many words," Sakamoto states. "We just wanted to let them play and be able to work things out for themselves. For example, say there's a mechanism where you need to climb up a ladder



and place a bomb there in order to advance, as one component in the solution of a [gameplay] riddle; if that was all you needed to do in order to get through to the next area, you'd miss all of the other mechanisms we'd put in place and wouldn't even realise that certain parts of the game existed. We wanted players to explore everything we'd made and then move on. That's why we designed the maps in such a way that the player couldn't escape without exploration, or in such a way that the player would end up back at a starting point before advancing. The player would be cornered/driven and would eventually be forced to stop and say, 'Right, how should I think about this area?' That's the essential point of *Super Metroid*'s map design. Not using words meant that the player had to 'feel' his/her

SUPER METROID

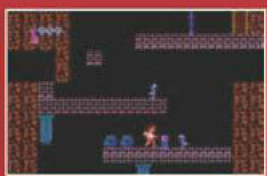


DEVELOPER HIGHLIGHTS

DONKEY KONG JR
SYSTEM: ARCADE, FAMICOM DISK SYSTEM/NES, ETC
YEAR: 1982

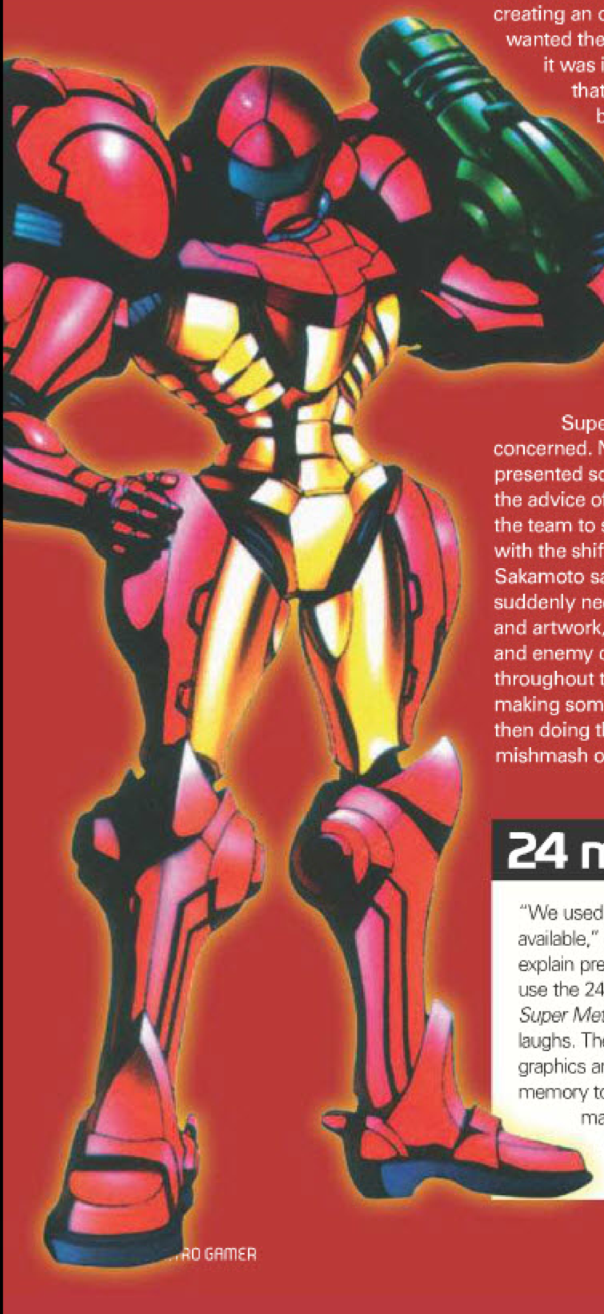
KID ICARUS (PICTURED)
SYSTEM: FDS/NES, GBA
YEAR: 1986

METROID
SYSTEM: FDS/NES, GBA
YEAR: 1986



way through the game – and that's how we wanted it to be. When they discovered something new – a new item or new location – we wanted the player to feel that he/she had made that discovery independently, without help from the game."

R&D1 went to great pains to achieve the fine balance seen in *Super Metroid*'s item locations, puzzles, boss encounters, and in Samus's acquired abilities and inventory use. It wasn't simply the case that everything fell into position at the first attempt at design either, as Sakamoto reveals: "In a stage following on from an area where the player made lots of discoveries, we'd hold back from pushing the player too far in order to avoid repetition. Balance between difficulty level and player discoveries was crucial. We wanted to avoid creating an on-rails experience – we wanted the player to feel free. But it was incredibly difficult to get that balancing act right. We'd been designing levels in this way since the first game, so we had a lot of experience but we still needed to experiment and build and rebuild."



As well as being a *Metroid* debut for most of the team, *Super Metroid* marked the Super Famicom debut for all concerned. Naturally, this step up presented some hurdles that even the advice of IntSys couldn't equip the team to surmount. "One problem with the shift to the Super Famicom," Sakamoto says, "was that it meant we suddenly needed a lot more sprites and artwork, so we shared the map and enemy design responsibilities throughout the team, with everyone making some input in those areas. But then doing that resulted in a complete mishmash of styles because of each designer's individual preference, so in the end I had to ask Yamane to retouch everything that had been submitted, bringing it all together as one consistent design."

Remarkably, there was no friction within the team even during the frenzied last stage of development, although there was something of a bad smell: "During the final six months of development I didn't know where I lived any more; the Nintendo building – not here, but the old place [in Higashiyama] – became like a boarding house for the *Super Metroid* team," Sakamoto grins. "It got to the stage where I really don't remember going home at all! There was a nap room where it was okay to sleep, but sometimes it was full [of sleeping, overworked *Super Metroid* staff] – those were the worst times, when I wanted to sleep but couldn't, and I didn't have time to go home! There were always between ten and fifteen of us in the office through the night, so we had to take naps in turns. The nap room wasn't being cleaned or looked after at all, because we were always using it; one morning staff from another area came to wake us up and told us that the room smelled like a zoo. Another Nintendo employee put a room freshener in the nap room, but that only made the place pong even worse. Everyone in Nintendo gave us funny looks," Sakamoto laughs. "It's quite sad having only these kinds of memories!"

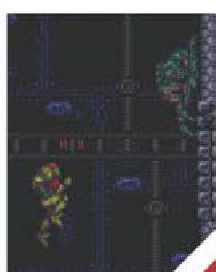
"We didn't want to explain things to the player. We wanted to let them be able to work things out for themselves"

Our talk soon takes a turn from development room stench to the wrath of a Nintendo demigod: Gunpei Yokoi. In his early 50s at the time of *Super Metroid*'s production, Yokoi was the game's general project manager but did not exercise any hands-on control. Sakamoto remembers how his superior viewed *Super Metroid*: "Yokoi-san, who at the time was my section chief and who always had fresh ideas, was always angry when he saw us all completely absorbed and working crazy overtime on *Super Metroid*. He came in and said, 'Are you lot trying to produce a work of art or something?' [Laughs] But this was an epic and we were already way past our deadline, and it seemed we were getting progressively further from our objectives – Yokoi-san was becoming angrier with us day by day during that period. We weren't aware of it, but Kanoh was given a warning by Yokoi-san. Although he was really unhappy with us, and even though he wasn't the type to dish out praise, Yokoi-san was constantly playing *Super Metroid* once we'd finished it – he was hooked. He was playing it so much that I wondered what he was up to. [Laughs] When other developers brought their action games to Nintendo, he'd always compare them with *Super Metroid* and invariably ended up recommending the third-party developer to 'go away and play *Super Metroid*'. That's how fond he was of our game. I suppose this is a better memory than the smelly nap room anecdote," Sakamoto laughs.

"*Super Metroid* was released in '94," he continues, "and development had taken us between two and three years. I don't know how it was perceived throughout the company, but the timing was such that all teams were focused on putting out lots of new SFC games, so there was obviously some expectation that we deliver with *Super Metroid*. We definitely had a lot of support and understanding of the game's concept from people related with the project, and that helped to ensure that we did a good job." Which, as everyone who has played the game will quickly attest, is a monumental understatement. And if it was good enough for Gunpei Yokoi, it's certainly good enough for us.

24 megabits, 7 modes

"We used all seven of the hardware modes available," Sakamoto tells me, although he doesn't explain precisely what that means. And how did you use the 24-meg cartridge that ended up housing *Super Metroid*, I ask? "I can't remember!" Sakamoto laughs. There's a pause. "We achieved wonderful graphics and sound by dedicating most of the memory to those features. Yes. Oh, and the game's maps were also quite large, I think. We made good, balanced use of the 24 megabits, anyway – that much I know for sure."



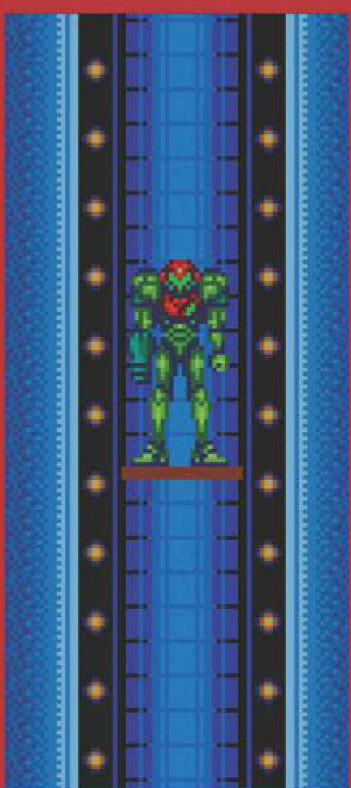




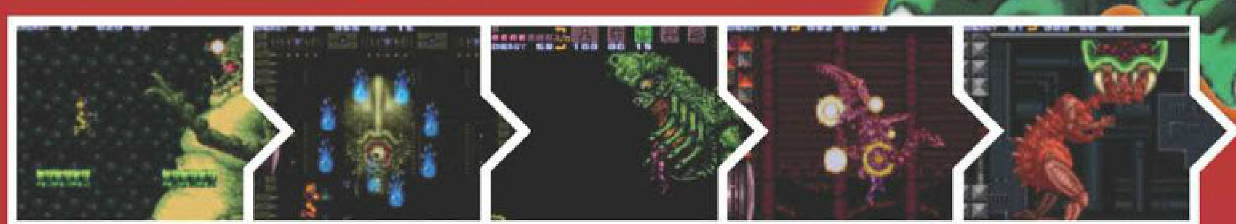
» [SNES] *Super Metroid*'s sprawling maps set the standard for the genre on a new eration of consoles..




» [SNES] The last-minute escape from the self-destructing space station has become a familiar opening for *Metroid* games.


» [SNES] The way in which new abilities open up new areas has been often copied since *Super Metroid*'s release.





The big bosses

Kraid
This first major boss character is literally a monster: he probably missed out on a role in the Chewits adverts purely because he was overqualified. Kraid's weak point is his gob, although he uses his whole being to launch quasi-organic thorns and fireballs in Samus' direction.

Phantoon
A good example of the Super Famicom hardware's transparency effects, Phantoon at times appears to be an apparition; this boss's trick is to flit between protected translucency and a devastatingly powerful solid state, and he likes to launch endless rounds of flaming blue orbs.

Draygon
This yellow-bellied, oversized crustacean is more than just a simple typo. Draygon is a mean swimmer, and its weak points are protected by the shell of a giant lobster. Slightly perversely, *Super Metroid* encourages you to vanquish Draygon by electrocuting it until its flesh turns purple.

Ridley
An homage – in name alone, obviously – to *Alien* director Ridley Scott, whose film was a major inspiration to the series, this senior Space Pirate appears once at the start of *Super Metroid* and again, in more powerful – yet paradoxically more vulnerable – form, towards the end of the game.

Mother Brain
The enigmatic final boss of *Super Metroid* is essentially a lump of deskulled brain. However, Mother Brain protects itself with dynamic weapons and the glass casing of a robo-suit, and when that fails, it connects to the neck of a bio-mechanical bodysuit. Afterwards, Samus again has to run for her life.

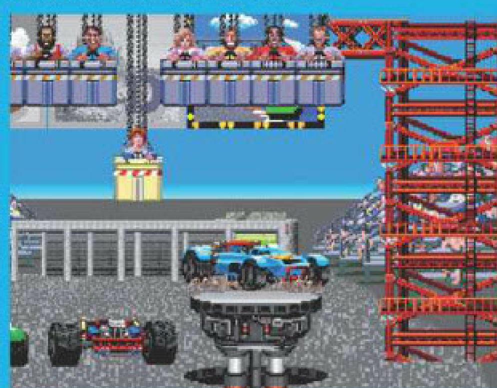
WHY YOU MUST PLAY... POWER DRIFT



[Arcade] Missed corner. Big rollover.



[Arcade] Study the 3D rotating map before you race.


[Arcade] Th selected driver is lowered into their car.

LET'S GO BACK TO 1988. ONE POUND ENABLES YOU TO PLAY DRAGON NINJA, GHOULS 'N GHOSTS AND HEAVY BARREL. OR YOU COULD BLOW IT ON ONE DELUXE GAME OF POWER DRIFT



IN THE KNOW

- » **PUBLISHER:** SEGA
- » **DEVELOPER:** IN-HOUSE
- » **FEATURED HARDWARE:** ARCADE
- » **GENRE:** RACING
- » **RELEASED:** 1988
- » **EXPECT TO PAY:** £150-£250

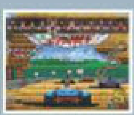
You step up to the machine, click into your seatbelt, and, with a great deal of anticipation, INSERT COIN.At this point, most of *Power Drift's* contemporaries would simply dump you on a track, and tell you to 'Get ready', but not this game. *Power Drift* wants to seduce you. The opening screen is a riot of activity. Expectant crowds sit in the grandstands. Five vehicles sit idling on the roadway. And high above them are 12 drivers… bursting with personality. Each competitor is highlighted in turn, as the machine awaits your selection.

Just like *OutRun*, *Power Drift* takes place on a series of five tracks, chosen by the user. But since *Power Drift's* courses are self-contained, you must nominate your preferred route at the start of the game. This is done using the steering wheel, with the START button selecting the currently lit driver. Each one has real character – there's no effect on playability, but it does a lot to enhance the atmosphere. Your racer is lowered into their vehicle. They zoom down a tunnel to reveal a rotating three-dimensional race map. Immediately, it stands apart from the many other circuits you've completed on such stable-mates as *OutRun* and *Hang On*. As the track rotates, you notice some breathtaking ramps, bridges and jumps. You're a long, long way from Coconut Beach.

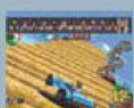
Your foot finds the accelerator and brake pedals… your right hand reaches for the high/low gear lever. And the camera cruises down to the start line for the big beginning. Three, two, one… The race begins, huge billboards fly past. You pass a few cars, and your cartoon driver gestures at each opponent. Then you hit the first turn. What's this? Your entire viewpoint tilts to illustrate the centrifugal force as you sweep around the corner. Sega refers to it as 'triple-axis point of view graphics'. You would call it 'astounding'. And as the deluxe cabinet rolls up to 20 degrees, you'll be glad you put that seatbelt on. It's like sitting in a canoe full of drunks.

Third-person – or chase-view– arcade racers were very punishing in the Eighties. Fail to take a corner on *Pole Position*? Wham! You hit a billboard and explode. Fail to take a corner in *OutRun*? Wham! You roll spectacularly and your girlfriend explodes. (Metaphorically, of course, it's not *Carmageddon*.) However, *Power Drift*

WHAT MAKES IT UNIQUE



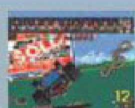
ROLLER COASTER TRACKS
OutRun and *Enduro Racer* had believable hills, but they were nothing compared to *Power Drift's* dips, climbs and hairpin curves.



TILTING HORIZON
Breathtaking tracks are one thing, having your entire world tilt on corners was something else. The cab had a seatbelt for good reason.



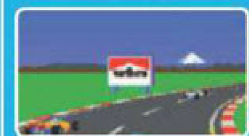
UNLOCKABLE VEHICLES
A five-track run of victories awards you a bonus track, featuring either the F14 from *Afterburner* or the motorcycle from *Super Hang-On*.



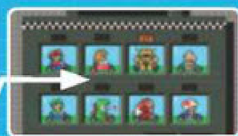
SMALL BUSINESS ADVERTISING
Billboards include a real American radio station, a furniture store, plus an Australian real-estate agent.

INFLUENCES

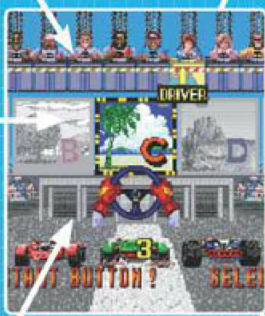
The games that influenced and have been influenced by **Power Drift**

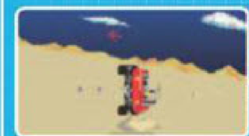


■ **POLE POSITION** (ARC) 1982
Namco's 1982 classic wasn't the first sprite racer (hello, Sega's *Turbo*) but it introduced huge colourful vehicles and very solid real-life billboards.



■ **SUPER MARIO KART** (SNES) 1992
This is like a less flashy *Power Drift*. Nintendo retained the in-game map, choice of drivers and spinning when you're hit by another vehicle.

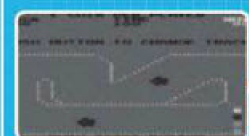




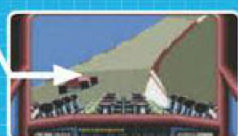
■ **BUGGY CHALLENGE** (ARC) 1984
This 1984 off-road racer was the first third-person driving game to feature a tilting horizon. Taito also introduced gamers to the fun of driving buggies.



■ **OUTRUNNERS** (ARC) 1993
The third *OutRun* took *Power Drift*'s 'low-frustration crashes' even further. However disastrous the collision, your vehicle slows but doesn't stop.



■ **SPRINT 2** (ARC) 1976
This 1976 classic is a distant relation, but without it *Power Drift* may not exist. *Sprint 2* introduced selectable tracks and AI opposition cars.



■ **STUNT CAR RACER** (AMIGA) 1989
Jeff Crammond's racer had a gallery of amusing opponents. The graphics and perspective were simplified, with one AI opponent per race.

> "As the cab rolls 20 degrees, you'll be glad you put that seatbelt on"

is much more forgiving. Clipping another vehicle causes you to spin wildly out of control for a couple of seconds. But you will retain some momentum, so irritation is usually minimal. Roll spectacularly on a hairpin corner and you'll reappear on the track with half your previous speed. Even if you fall 100 feet from a raised roadway and crash straight into a billboard for 94.9 WLAK FM love songs... you'll still be flung back onto the track... with at least a third of your original velocity. Mistakes are still costly, but frustration is reduced.

Each challenge consists of a four-lap race, with an enthusiastic sports commentator commenting on your progress. In the upper right-hand corner of the screen, you will notice an in-game radar/map. Finish in the top three racers and you will be awarded the standard gold, silver or bronze trophy... plus access to the next track. Fail, however, and it's 'Continue' time for you. Time to attempt that track again. Earn five gold trophies on one credit and you will be rewarded with one of the first unlockable vehicles in videogame history. An extra stage where you'll swap your buggy for the F14 from *Afterburner*, or the motorcycle from *Super Hang-On*. Upon completing the game, the screen will fill with congratulatory graffiti, including such compliments as "You're great", "Fantastic" and "You're a handsome boy" strangely irrespective of the driver's actual gender.

Power Drift made a big impact in the arcade. And it was snapped up by Activision to be its marquee title for Christmas 1989. The Commodore 64 version was superlative, the other 8-bits were reasonable and the PC-Engine incarnation was fairly good. The DOS port was reminiscent of an upscaled version of the C64 game minus the presentation. And the less we say about the 16-bit versions the better.

If you're looking for your own *Power Drift* arcade cabinet, you might be able to locate a standard cab for around £150-250. The deluxe version is going to be around double that.

Power Drift was one of Sega's final sprite-based racing hits, before *Virtua Racer* started the polygon racing era. In its annual arcade wrap-up, *Sinclair User* named *Power Drift* "The racing game of 1988", and on its 21st birthday, we're still inclined to agree.

THE CONVERSIONS

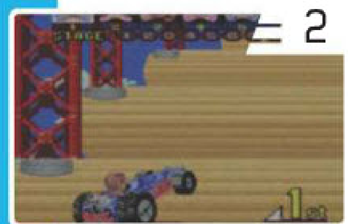
How the various versions compare



1 COMMODORE 64

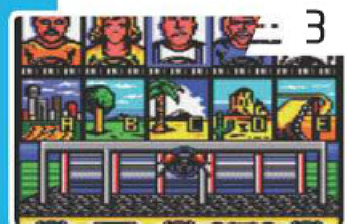
BEST VERSION

Chris Butler took on many tricky Sega arcade conversions, and this is a triumph. All the drivers, all the tracks, all the speed in one load. The road is a simple grey, but you can still 'fall off' the high sections. Oh and we're not including the Dreamcast port as that just wouldn't be fair on the others.



2 PC-ENGINE

This port is very different from all the others, with a new driver selection screen and intro animations. In-game, there's a good sense of movement, with a pretty good rendition of the 3D 'log' roads. Playability is lessened by poor visibility due to tight corners and a very low horizon.



3 AMSTRAD

Predictably, CPC gamers get a similar design to the Spectrum version, with the use of colour the only notable variation. In the case of *Power Drift*, that makes a big difference. The raised tracks are much easier to see in this port, increasing the playability no end.



4 SPECTRUM

128K users get a single load. 48K users don't. Only five driver mugshots appear on screen. The illusion of speed isn't as good as that of *Chase HQ*, and the monochrome tracks don't stand out against the background. Unlike the original, crashing means restarting from a standstill. Disappointing.

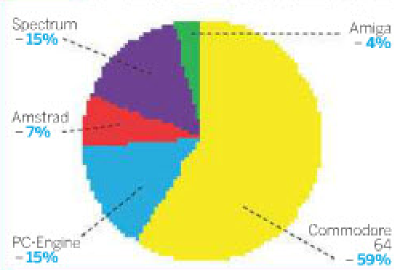


5 AMIGA

WORST VERSION

Sure it has the arcade attract screen, track intros and secret vehicles. They even added a mouse steering option. But please don't press Start. During straights, the floating 'pieces' of road will confuse you. And when you hit the corners, they're so tight you're guaranteed to oversteer.

FORUM OPINION



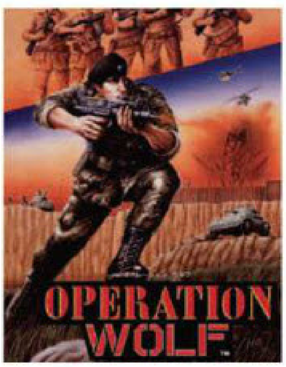
"Out of the versions I have played (C64 and Speccy), the C64 version is pure brilliance. Not only is the game technically clever, but it's also brilliant fun" – **pottyboy**

"The CPC version is a very good game, but I have seen the Commodore game on YouTube and was very impressed" – **Seadog74**



IN THE KNOW

- » **Name:** Operation Wolf
- » **Released:** 1987
- » **Publisher:** Taito
- » **Developer:** In-house
- » **Price:** Between £100-400 depending on condition
- » **By The Same Developer:** Chase HQ



COIN-OP CAPERS

OPERATION WOLF

we take a definitive look back at the classic arcade game from Taito and unravel its sheer brilliance through those who know it best





The words '*Operation Wolf*' will likely conjure up one image in your memory: summer holidays spent down your local arcade with a pocketful of lives and a beaming smile as you blow away enemies like candles on a birthday cake. Its action-packed cabinet art, showing a Green Beret firing a machine gun while carrying a hostage, coupled with a realistic-looking Uzi with which to mow down virtual militia, was enough to make even the most ardent pacifist slot a coin down its throat.

Taito's *Operation Wolf* wasn't the first gun game to appear on the scene, but with a loud echo of the *Rambo* films emanating from the coin-op, it quickly became one of the most popular, able to turn a small child into a gun-toting hero, and, because the enemies all looked like *GI Joe* characters, parents didn't bat an eyelid.

While light gun games had appeared on the scene as far back as the late Thirties, *Operation Wolf* was really the first to have a story tying together its levels: your mission is to locate and rescue five hostages and then help them escape to safety. The early stages see Roy Adams trying to find the concentration camp where the hostages are being kept, and he does this by interrogating an enemy officer. Then, after a brief detour to save a village, Roy arrives at the camp, frees the prisoners and must provide covering fire as they run into the back of a C-123 military transport aircraft making its way down a runway.

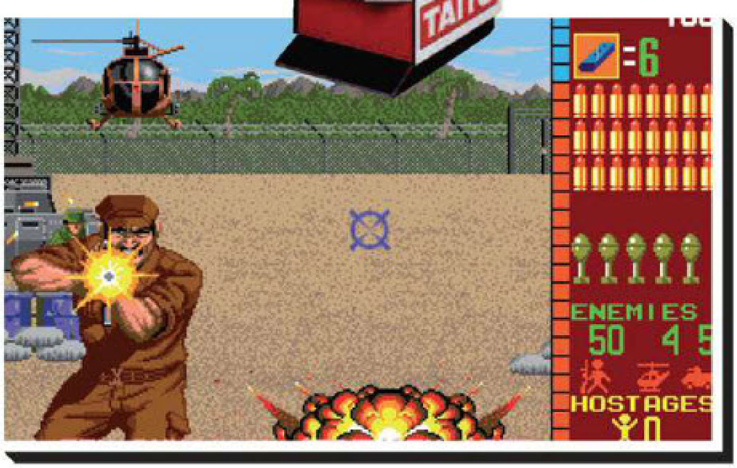
One interesting aspect of *Operation Wolf* is the fact that your efforts in the field affect the outcome. At the end of the game, the President will either be singing your praises or ripping shreds off you, depending on how many of the hostages you rescue, making *Operation Wolf*, as well as Taito's *Bubble Bobble* (1986) and *Arkanoid* (1986), one of the earliest arcade games to feature alternate endings. Weirdly, and contrary to this thinking, in the original Japanese version, the player is given the choice of which order to tackle the missions in; an option that appears in the Japan-only PC-Engine port.

The enemies that Roy faces include a variety of different soldiers and vehicles, and thanks to the fact that a stage only ends once a set number are destroyed, the action maintains a manic pace. But it isn't completely one-note, as the player must conserve ammo and also be careful to avoid shooting civilians that run into the fray. The latter feature has since become a staple, if annoying, part of gun game gameplay.

Since its release there has existed a small shadow of doubt as to whether *Operation Wolf* is actually a light gun game or not. As the gun is bolted to the arcade cabinet, many believe the game's controls actually work by having the crosshair on its screen steered by the gun mechanically, as opposed to light sensor technology. Well, the truth is that *Operation Wolf*'s Uzis did utilise the technology, but, as the light sensors were unreliable, manufacturers decided to rethink how the crosshair was controlled. They opted to use mechanical controllers with a potentiometer that would track the movement of the gun and relay the information to the screen. *Operation Thunderbolt*, *Operation Wolf*'s sequel, utilised this change.

Such was the popularity of *Operation Wolf*, it was ported to pretty much every platform in existence, with impressive ports by Ocean found on the Amiga, ST and various 8-bit micros, and TurboGrafx-16, Master System and NES conversions by Taito. More recently, the NES version of the game was made available to download on Nintendo's Virtual Console last year, and an arcade perfect-ish port was released as part of *Taito Legends*, alongside Taito's *Space Gun*. Sadly, neither game was given light gun support. ✱







COIN-OP CAPERS

THE EXPERT



We caught up with Operation Wolf MAME world champion Rudy Chavez and sweated out the intel on how he managed to mow down 16,316,700 worth of enemy militia… without even using a gun!

PROFILE

» **Name:** Rudy Chavez
» **Age:** 33
» **Date of Birth:** 09/06/1975
» **Current World Records:**
Superman (coin-op)
1,914,900 points
Mercs (coin-op)
999,990 points
Alien 3: The Gun (coin-op)
17,630,000 points
Bionic Commando (MAME)
2,251,090 points
Chase HQ (MAME)
11,071,500 points

Retro Gamer: So do you remember the first time you saw *Operation Wolf*?
Rudy Chavez: Yes. When I was a kid I went alone to 7th and State of downtown LA and saw from a distance this odd-looking arcade that I thought was a carnival shooting game. I was amazed at the realism of the gun, with the epic intro graphics, so I put in a quarter, hit the start button and exploded with excitement with the shaking recoil feel of the gun. I felt like Rambo firing on those guerrilla soldiers and learnt right away how to use the rocket bombs correctly.

RG: Do you remember the first time you finished the game?
RC: I kept trying to finish the game but found the Airport Getaway area just too hard. So I stopped playing for a few months, because of the frustration, and only stood watching other gamers play until I saw this one person mowing down the enemies quickly and tactically. It was so amazing that he even looped it a few times. I learnt his tactical secrets that helped me to keep looping *Operation Wolf* back then. I now utilise my skills on the MAME version, but I also play other positional fixed gun games like *Alien 3: The Gun*, which I also hold the world record on.

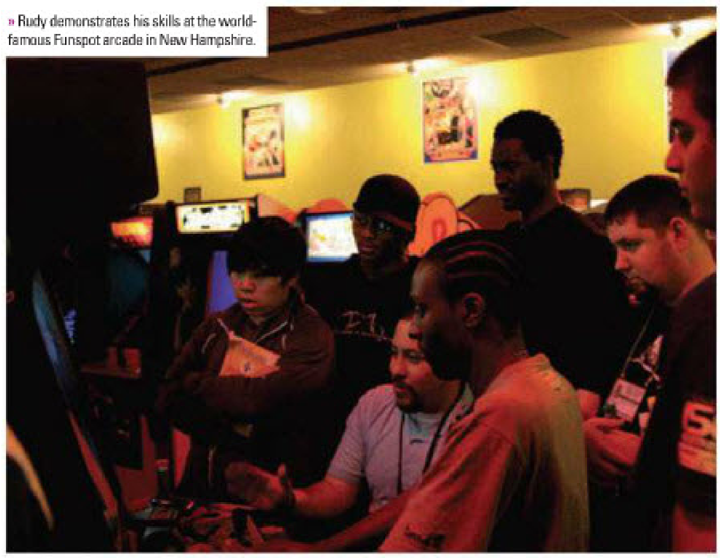


RG: Can you tell us a little about your impressive high score on the game and what it feels like to be the Twin Galaxies MAME World Champion?
RC: I was given the title World Champion officially for a big reason, and that is I try to go further than what is already necessary to set a world record. I raise the level of difficulty all the way up and decimate it from start to end with no loss of life. MAME supports many types of control devices. The three basic classes of controllers are keyboard, mouse and joystick, and you may be wondering, 'Is it easier to use a light gun?'

RG: So what are the main advantages and disadvantages between using a gamepad and light gun for the game?
RC: The gamepad gives a positioning crosshair that helps you fire at enemies accurately, but moving it is time-consuming and making a rapid decision during an unexpected heavy firefight can be tricky.

The light gun offers true aiming accuracy and gives fast response to any direction, but you need to fire the gun most of the time to know your aiming direction. Doing this causes ammo to decrease rapidly.

The mouse gives a positioning crosshair with smooth scrolling and

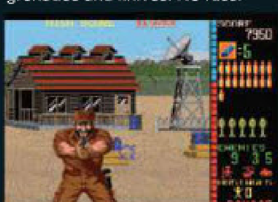


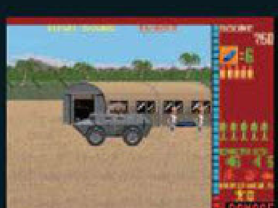
» Rudy demonstrates his skills at the world-famous Funspot arcade in New Hampshire.

KNOW YOUR ENEMY

Listen up, maggots. To ensure you don't come home in a body bag, you'll need to know what you're up against…

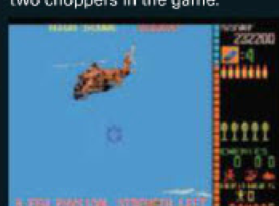
Soldiers
The soldiers serve as basic cannon fodder and generally take one shot to drop. Watch out for grenades and knives. No fuss.

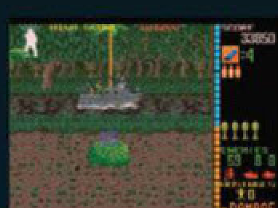




Armoured Truck
Being that these are made of steel and have a top-mounted turret, they are tricky enemies to destroy. Take them out quickly.

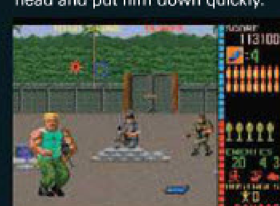
Helicopter
Like the truck, these give you a few moments to spot them and take them down. There are two choppers in the game.





Boat
The boats only make an appearance in the jungle stage and are the easiest vehicles to take out. Aim for the gunner.

Duke Nukem
Okay, it's not actually the Duke, but you have to agree the similarity is striking. Aim for the head and put him down quickly.



speed, but the durability of the mouse may fail during long gameplay of input stress at a greater rate. An example is rapidly clicking and grip pressure. Also it's an absolute hand workout once you are two hours into the game.

■ RG: As well as the obvious, what are the main differences between the MAME and coin-op versions of *Operation Wolf*?

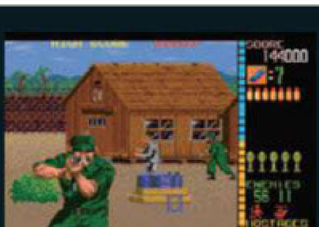
RC: The real arcade [machine] of *Operation Wolf* is far superior for many reasons. The cabinet has a mounted metal Uzi gun with force feedback and mechanical vibration to mimic the feel of recoil every time you pull and hold down the trigger. MAME cannot replace the real deal; it can emulate any arcade game but not the actual feel of it.

■ RG: Can you tell us a little more about your *Operation Wolf* world record? How did you manage to reach such an impressive score?

RC: My world record *Operation Wolf* MAME score of 16,316,700 is one of my best long-enduring challenges I've accomplished. It took around four hours to complete and I had to continually move my mouse rapidly, firing and blasting the enemies constantly, since this was set on the hardest difficulty setting. It was hellish whenever I looped the game, and the only rest I had was when a stage was completed or the last mission was finished. I was determined to go the farthest I had ever done and when I did it I was so thrilled.

■ RG: How did you manage to maintain concentration on the game for so long?

RC: You know, the funny thing is on the early tries I broke my mouse during the battles and ended with around 5 million points. One day I hope to be sponsored to go to Funspot again to beat my own MAME world record on the actual *Operation Wolf*. *



Knifemen
The knifemen only crop up during the last two stages but will ignore you and kill the hostages. Take them out quickly or the mission will be in vain.

RUDY'S SURVIVAL GUIDE

The expert Operation Wolf player reveals his personal tips and strategy to mastering the game and racking up those high scores

1 ■ MUNITIONS
Every commando knows that running out of ammo means running out of life, so reserve ammo by not auto-firing during battle, and save your rocket bombs for more serious situations and destroying the light armoured vehicles, gunboats and whirlybirds.

2 ■ STATUS BAR
It's important to pay close attention to your health, munitions and number of enemies you have to kill. This way you know what to expect if any ambush occurs. Remember that any hostage or villager you kill will deplete one health cube.

3 ■ ITEMS
The jungles sure contain plenty of wild things, but luckily *Operation Wolf* has a lot of wild scattered items for you to find. Shoot the coconuts and animals to reveal items and bonuses. Sometimes, though, items will just randomly appear.

4 ■ MILITARY TERRAIN STRATEGY
In the Communication Camp stage, try to conserve as much ammo as you can. On Jungle Camp always aim for gunboats and paratroopers first. On the Village stage try not to use any rockets, but in the Munitions Base stage feel free to use rockets at will. On the Concentration Camp stage, try not to use any rockets, and finally, on the Airport stage, try to save all the hostages before using rockets.

5 ■ BRUTE FORCE ROCKET BOMBS
The best tactic to mow down enemies quickly is to use the rockets when they group together. Kill two, three, possibly five birds with one rocket grenade, as it were. Also, keep yourself safe by having at least two rockets for life-threatening moments.

SEQUEL PIGGY

We take a look at the follow-up missions of Taito's popular war franchise



Operation Thunderbolt
Released: 1988

Operation Thunderbolt is a fine follow-up that remains true to the elements that made the original game such a massive hit. This time Roy is joined by fellow Green Beret Hardy Jones, and both men are tasked with saving American hostages from a hijacked plane. Tweaks to the gameplay include the action now scrolling into the screen as well as horizontally, plenty more hostages to rescue, and the odd first-person vehicle section. Perhaps owing to the fact that the game could be played in co-op, *Thunderbolt* is a more challenging game than the original, although the benefit of being able to continue from where you fall – except during the final boss fight – does balance things out a shade.



Operation Wolf 3
Released: 1994

The third game feels like an *Operation Wolf* game in name only, and given how bad the English in the game is – our favourite quote is: "The nuclear missile is fire. Down with it before time limit" – it's a wonder Taito even managed to get that right. The game is clearly from the dreaded post-*Lethal Enforcers* epoch of gun games, and drops the timeless sprites in favour of digitised actors and dull gameplay. With no Roy or Hardy to take charge – instead we get a Clive Owen lookalike and a woman who looks like Daryl Hannah in *Blade Runner* – and an army of enemies dressed like they're at a rave, this game almost takes a combat knife to the throat of the series.

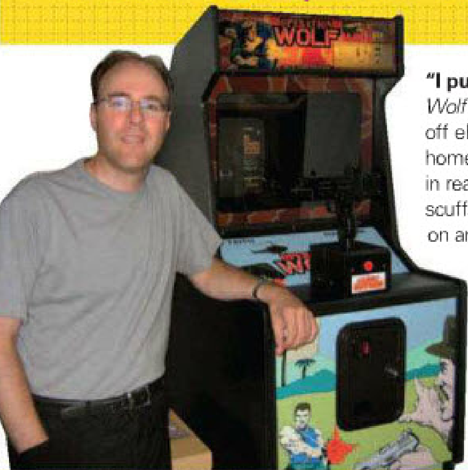


Operation Tiger
Released: 1999

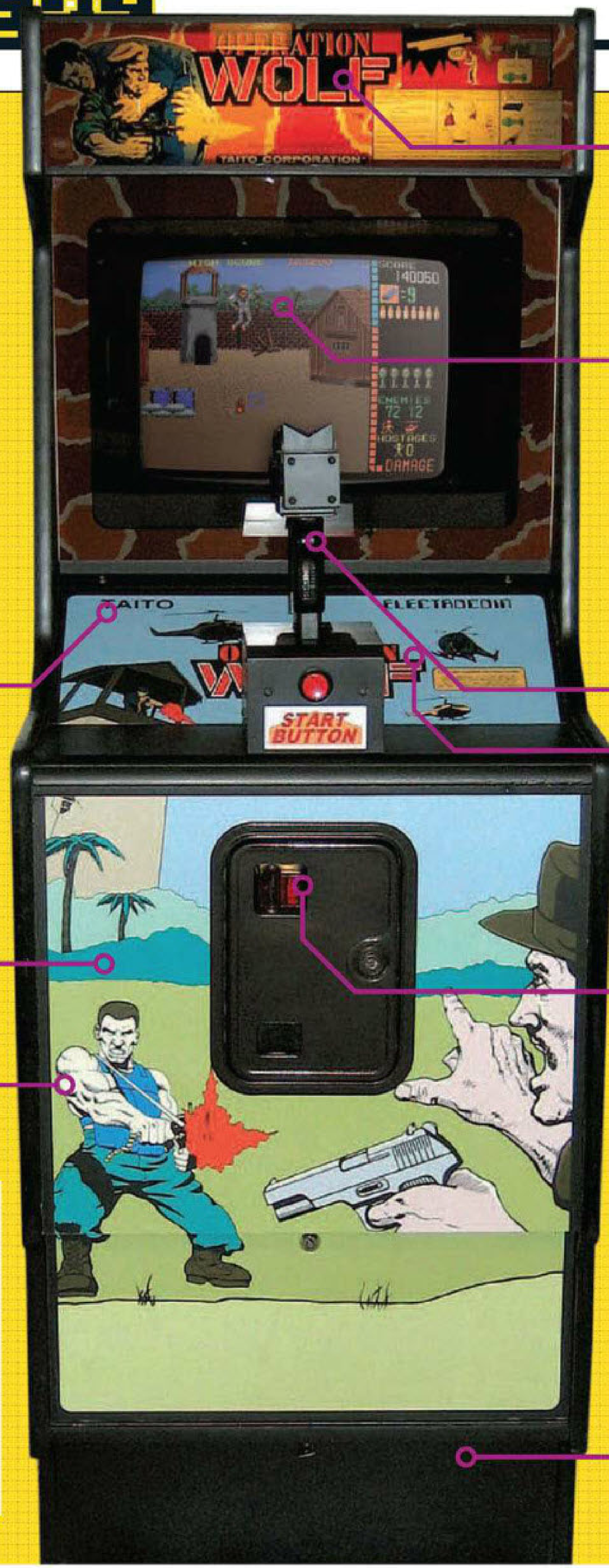
In 1999 Taito released its final *Operation Wolf* title, *Operation Tiger*. It once again changed the look of the franchise, going all *Time Crisis* and *Virtua Cop* in opting for graphics made up of polygons. Astute readers will have probably already twigged that *Operation Wolf* is one of the few gun game franchises to have ticked every box in the visual evolution of the genre. The plot is set in good ol' 199X where Nation X has been taking over neighbouring oil-producing nations. You join the mission at the point where it has proved an abject failure and are tasked with trying to rescue your fallen comrades and help them escape.

COIN-OP CAPERS
THE MACHINE

We have a brief chat with Jamma+'s Chris Nightingale about his recently restored Operation Wolf cabinet. If only it was ours…



"I purchased the Electrocoin *Operation Wolf* cabinet in a semi-working state off eBay from a guy who had it in his home for the past five years. It was in reasonable condition bar the usual scuffs and cigarette burns you find on any arcade game of that age. The restoration process took a couple of months and mainly consisted of cosmetic restoration as well as fixing a few technical issues. The hardest aspect of the restoration was the monitor, because it wasn't something that I could actually repair myself."



TAITO

Taito was formed in 1953 under the name Taito Trading Company. The company released numerous arcade hits during the Seventies, Eighties and Nineties, including *Bubble Bobble*, *Arkanoid* and *Space Invaders*. It is now owned by Square Enix.

ARTWORK



"As with all these old machines, the artwork did have the odd battle scar due to years of service, so I decided to restore it to its former glory. I decided to recreate the artwork from scratch myself and apply it directly over the original. I then recreated it in Paint Shop Pro, which was a fairly time-intensive process. The results came out really well."

PCB

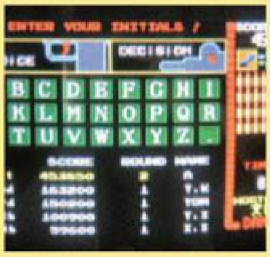


"At the heart of the machine is the game software, which runs from a PCB that has connections to all the controls, the monitor and the speakers. Again, these are the sorts of electronics that you don't really want to be fiddling with unless you know what you are doing. I was lucky in that the board worked perfectly, but I've still invested in a spare board, just in case."

MARQUEE

Like many arcade marquees, *Operation Wolf*'s is designed to both attract punters – it's backlit – and show them how to play the game, with this marquee clearly showing who you need to avoid shooting and your weapons.

MONITOR



"The main technical problem was that the gun didn't register any hits on the screen – a common fault for a number of reasons. This particular fault was due to the monitor and required a reasonable amount of work to fix and was beyond my expertise. Luckily, Craig at Giz10p (**www.giz10p.co.uk**) was able to help me."

THE GUN



"The most important feature of the game is the gun, which is modelled on the IMI Mini Uzi 9mm. As this is something that is handled all the time, it had a number of dents and scratches and a lot of surface rust. I stripped down what I could and removed all the existing paint, primed it and then finished it off with a re-spray. I also cleaned up the start button and the lens within the gun, and reproduced the 'Start Button' label. I've also purchased some spare guns and restored those as well, just in case something ever goes wrong."

ELECTROCOIN

Electrocoin was responsible for manufacturing *Operation Wolf* throughout the UK and has been in business for over 30 years. It is still handling titles for Taito, with its latest release being 2007's *Chase HQ 2*.

COIN MECH



"Although the cabinet had a coin mechanism (Coin Controls C220) that accepted 10p, 20p, 50p and £1 coins, the previous owner didn't bother using it. I decided to keep the coin mechanism, but it was out of date, programmed with the old 50p coin and needed updating to the current one. I was able to get one from Swallow Amusement Machines (**www.coin.demon.co.uk**)."

SIDE ART

Chris hasn't recreated the original side art, so here's a picture of it. It depicts the lone wolf gunning down unseen enemies with a POW slung over his shoulder. Powerful and effective.



DEVELOPER Q&A

We speak to Colin Porch and David Blake, who worked on the Commodore 64 port of the game for Ocean software



■ RG: So, how did you get the gig?

CP: I was an in-house programmer for Ocean, as was David Blake. We were shown the arcade version and asked if we could convert it to the C64. I could see all sorts of technical problems, but the answer, as usual, was: "We'll give it our best shot!"

■ RG: Did you receive any support from the original developer?

CP: Not that I recall, apart from having access to the arcade machine. We certainly didn't get any source code.

DB: None. Apart from them supplying the arcade board, and to be honest I'm not sure they even did that. We had a room full of boards hooked up to monitors. To my knowledge, none of us ever had any technical support from the original developer. We didn't need any. All we needed was access to the original game. I would say it took us 4-5 months to complete the conversion. By the time we had finished I was an expert!

■ RG: Which 8-bit version do you feel was the best?

CP: I'm not sure that I saw the others in any great detail, but all were pretty good if I remember. Certainly I did not think that a better job could have been done on the C64.

DB: To be honest, I can't remember. But I think ours was the most faithful, and many C64 gamers appreciated the unique technical qualities of the game. I can't think of another scrolling C64 game with a vertical split. No. This never happened to my knowledge.

■ RG: How long did the conversion take and how many of you worked on it?

CP: On the programming side, just myself and David. But there were lots of others involved in graphics, sound effects and music. I'm not sure that I can remember them all… Steve Wahid and Keith Tinman, I seem to recall, but I'm sure that there were others. Such projects usually took a few months, and deadlines, when eventually given, had to be stuck to! Lots of midnight oil spent!

DB: As I was the new boy at Ocean, and very young even by their standards (16), they thought it would





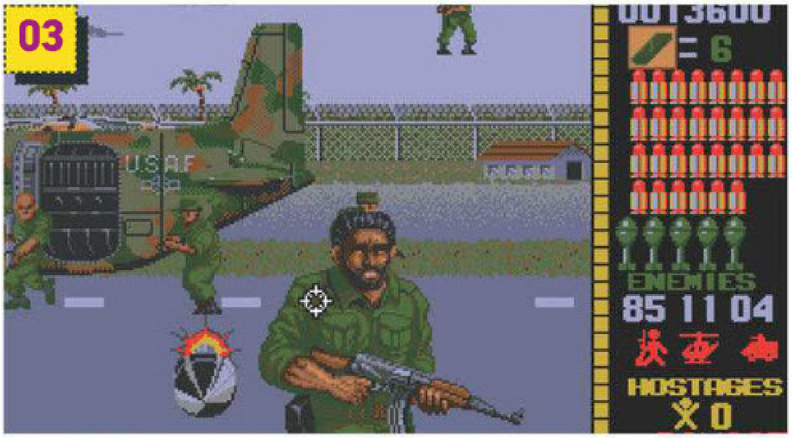
COIN-OP CAPERS
THE CONVERSIONS



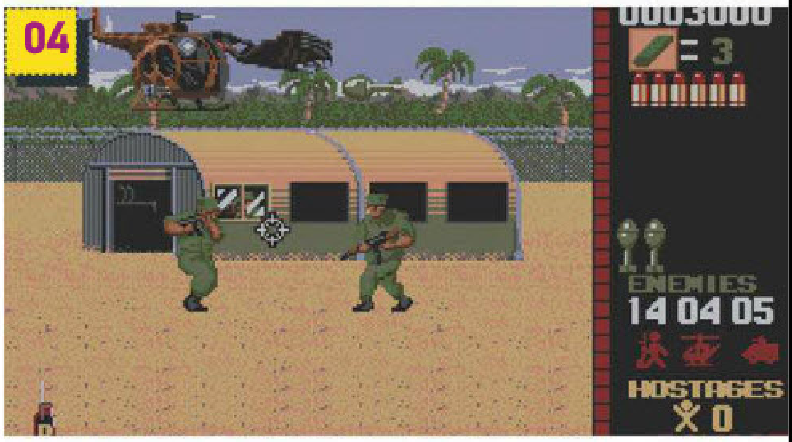
Taito's Operation Wolf received a number of home conversions, but which was the best? Find out now as we play every single one…



01



03



04



06



07

01. NES
(Worst Version)

The tagline for this version, 'Take No Prisoners', is a little misleading, given that your mission was to do just that. Anyway, the NES version is one of the weakest ports. The graphics are squashed, stubby versions of the arcade game, and playing it using the Zapper ironically makes the game almost impossible, with questionable accuracy and a lack of a quick fire function. Stick to the controller.

02. Master System
(Best Version)

Now this is more like it. The console's light gun works brilliantly and far more responsively than the NES Zapper, the graphics are bold and colourful, and rockets are fired using the second controller, allowing you to position the control pad on the floor like a *Time Crisis* pedal and use your foot to launch grenades. This is as good as it was likely to get from the SMS.

03. Amiga

In terms of graphics, the Amiga port does a great job of replicating the arcade sprites. Also, the scrolling feels smooth for the most part, and this is a decent stab at replicating the coin-op. The only gripes we have are the fact that it comes on two disks and that load times are lengthy. Also, ammo seems sparse and there is slowdown when things get chaotic, but this isn't a bad conversion at all.

04. Atari ST

There's not much to split the Amiga and ST versions, aside from the usual: the graphics aren't as colourful and the scrolling isn't as smooth, although you'd struggle to notice. So the graphics look a little drabber, but so what? War isn't supposed to be pretty, right?

05. Amstrad CPC

In terms of the 8-bit micros, the Amstrad walks away with the trophy. Owing to the machine's wonderfully fulsome colour palette, Arnold is perfectly suited to taking on the chunky aesthetics of the coin-op, and this conversion doesn't disappoint. The graphics look great, if a little bit garish and blocky, and the scrolling is surprisingly smooth. The controls feel solid and responsive, and even steering the crosshair using the keyboard is enjoyable.







06. ZX Spectrum

Given the frenetic nature of the gameplay, the lack of colour puts the Spectrum at a disadvantage. Regardless, this remains a decent port, and Ocean did a great job at converting the arcade game to the humble Spectrum. It starts off well, with a neat homage to the coin-op, and things go as well as could be expected. The scrolling is smooth, controls responsive and the graphics detailed.

07. Commodore 64

The C64 port is another excellent rendition. And while the colours look a little washed-out, they help make everything on screen look better defined and easier to shoot. The scrolling is nippy, and this version works brilliantly with a light gun. Another solid port.

08. PC-Engine/ TurboGrafx-16

As you would expect, the PC-Engine port looks the business. In terms of visuals and arcade feel, this is the best it got in 1987 without forking out for the actual arcade board. This version also boasts a two-player mode, allows you to set the pace of the action with three speed settings, and even lets you pick the order of levels to tackle, but it isn't light gun compatible because no light gun was ever released for the PC-Engine. Shame.

DEVELOPER Q&A

be a good idea for me to work as their top C64 programmer's 'helper', or 'apprentice', if you like. That was Colin, who already had a number of successful titles under his belt. In the late summer of '87 Colin had started on *Gryzor*, which was the first game I worked on. All the 'tunnel' sequences were mine, and Colin did the rest of the main scrolling game. That game was tough because we aimed to fit it in one load, which we managed in the end. I think every byte of the C64 memory was used, and *Operation Wolf* was the next one. Another tough game. I know I worked on all the baddie animation sequencing. I think the main scroll routine might have been mine too. I'm not sure now.

■ RG: Did you work on any of the other versions?

CP: No. Although I could understand Z80 and 68000 code, there were a lot of technical details about the other machines that I did not know. We all tended to work with the machines we were good at.

■ RG: Had you played the game before?

CP: Only on the arcade machine, and I was rubbish at that. I usually got somebody else to play up to the level I wanted to see. I was in my forties even then and was considered a 'Grandad' in the industry.

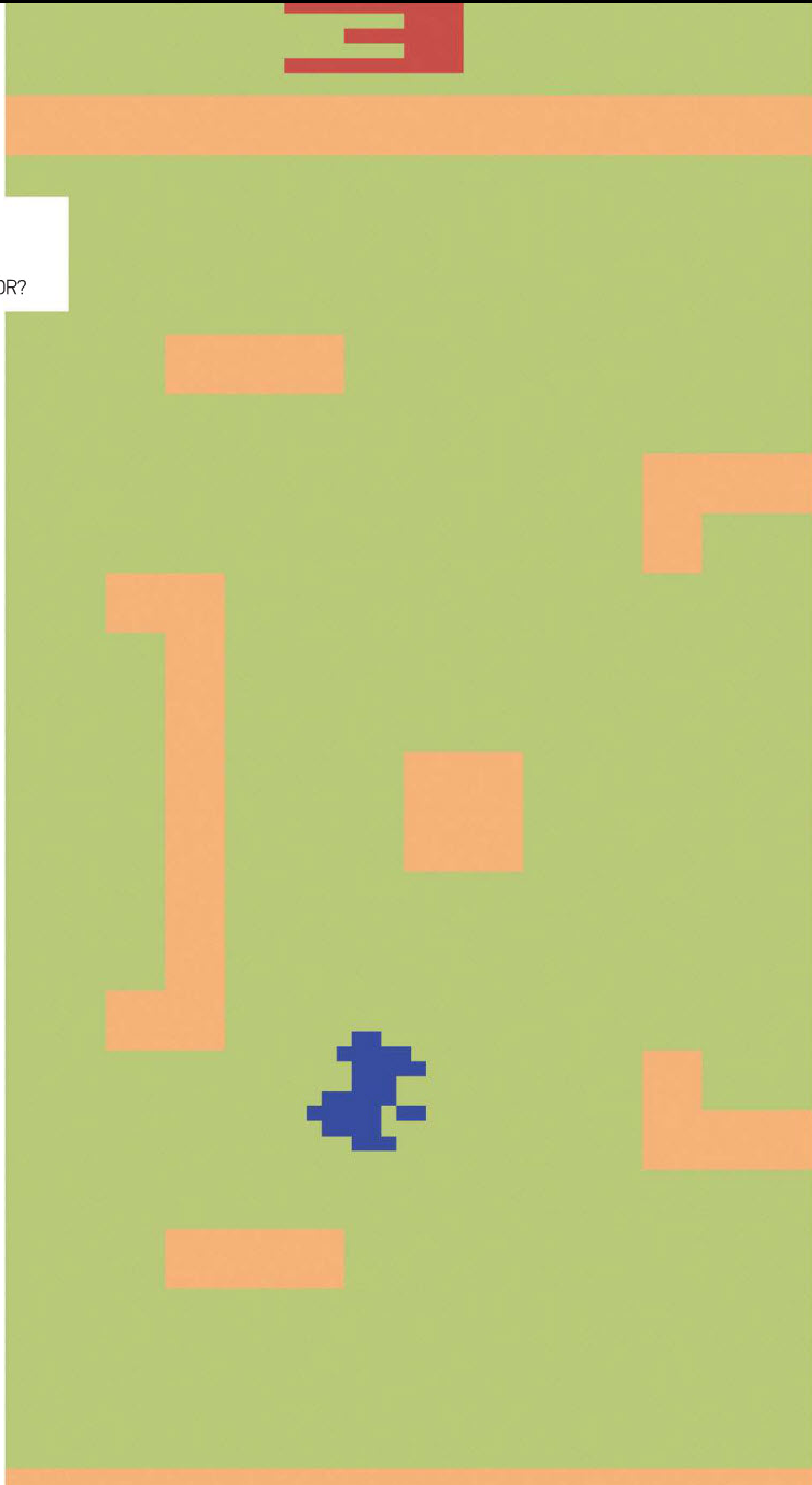
■ RG: What's most difficult about conversions?

CP: It varies from game to game. The most difficult technical bit in *Operation Wolf* was the nature of the display. The right-hand part of the screen had to be static, while the left-hand part had to scroll left to right. The Commodore 64 had great scrolling capabilities, but the whole screen had to scroll. The effect was eventually obtained by manipulating the character data for the right-hand part in the opposite direction. So it was scrolling, but it appeared to be static. Where the two met was a horrible jumble, but it was covered with the energy level sprite. I got asked for years afterwards how it was managed. Programmers thought I had managed to somehow interrupt the scrolling mechanism…

I also seem to remember a lot of problems adjusting the helicopter sprites so that they did not appear in front of the static data. I think David did a lot of work there.

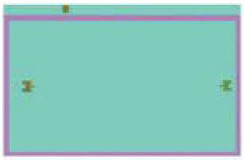
DB: As Colin said, the biggest problem was the static area to the right. We originally started writing a version with all that stuff at the bottom of the screen, which is far easier – ask any C64 programmer why! Then we came up with a clever solution, which was shifting the character definitions in that right-hand area one pixel at a time in sequence with the scrolling, which made those characters appear static. It took a big slice of the processing 'pie', but the scrolling was relatively slow anyway, so it wasn't a problem. We managed it somehow!



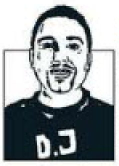


COMBAT

WAR... HUH... WHAT IS IT GOOD FOR?



- **PUBLISHER:** ATARI
- **RELEASED:** 1977
- **GENRE:** ARCADE
- **FEATURED HARDWARE:** ATARI 2600
- **EXPECT TO PAY:** £5+



HISTORY

Ah, *Combat*... 32 years old and you're still thoroughly entertaining to play. While not entirely original – it takes elements from Atari's own *Tank* and Coleco's *Telstar Combat* – it is the superb 2600 effort that we still find ourselves returning to.

The game itself is pure simplicity: you pummel your rival tank with bullets and try to score a set number of points before your opponent does. Take him out before he manages to hit you and he'll be hurled across the game screen, allowing the whole deadly chase to begin anew. It's a wonderful, highly competitive concept, and I've lost count of the number of arguments I've had with friends when playing it.

The real beauty of *Combat*, though, was that there was so much to it. In addition to tanks you had access to biplanes and jets, both of which moved significantly faster than their ground counterparts, and, due to not being restricted by an arena, could move off one side of the screen and appear on the other.

In addition to different vehicles it was also possible to choose from several types of shots, meaning that the tank had access to standard or guided missiles, while the jet and biplane could also use machine guns. Successfully guiding a missile onto your stricken opponent still manages to fill you with immense satisfaction. There's an impressive selection of different arenas to choose from as well, with certain levels featuring cleverly designed mazes to negotiate. By far the best addition to *Combat*, though, was Tank Pong, an ingenious twist on the usual game that allowed you to bounce your shots off walls.

All in all there were an impressive 27 game modes to choose from, and while there was no single-player support, it remains one of the greatest party games to ever appear on Atari's machine. It may have looked incredibly ugly, even back in the day, but *Combat* is all about its amazing gameplay, and for that I'll be eternally grateful.





FROM THE ARCHIVES

RETRO GAMER DIGS UP THE FILES OF THE CLASSIC COMPANIES OF OLD

Durell Software

As software houses go, Durell couldn't claim to be the most prolific, exciting or successful, but it was responsible for several hits, including Harrier Attack, Saboteur and Turbo Esprit. Martyn Carroll talks to its key people and charts its brief but bright history

The sum of £100 is important in the history of Durell Software, and no, it has nothing to do with the cash reward that the company offered to anyone who dobbed in a dirty pirate. Funnily enough, when Durell is mentioned these days, the topic almost always turns to this infamous £100 reward, so we began by asking Durell founder Robert White about it. Did any playground pirates do jail time for ripping off *Turbo Esprit*? Was the office inundated with illicit tapes and anonymous tip-offs? "It was an absolute hoax," he laughs. "You wouldn't go prosecuting some kid, would you? No one contacted us anyway. The only thing we got were people phoning up and saying things like, 'I've been playing *Combat Lynx* and I landed my helicopter in front of a tank and the tank drove straight through it. Why didn't it blow up?' Piracy was definitely a problem, but the reward was just a bluff really." But what about those special Durell-branded blue cassettes that identified legitimate copies? They must have been expensive. Robert laughs again. "It was simply that our tape duplicator had some blue tapes! That was it. Nothing conscious there at all."

Forget the reward – £100 is important because that's the capital Robert used to start up Durell in 1983. With the money he bought a shiny new Oric-1 computer and taught himself how to program it. Prior to this, his background was somewhat less technical. He actually qualified as an art teacher but soon discovered that half the population had too. "I remember applying for one job and there were 800 applicants," he says. Switching career paths, he gained a degree in quantity surveying and landed a job at the Oxford Regional Health Authority. In his role as a senior architect, he used CAD software to design hospital buildings and quickly developed a fascination with computers, and in particular the notion of using computing to solve problems.

"I was in the job for three years," he says, "but then my wife's grandparents died and we had the opportunity of moving into their house, and that was out in the country in Taunton where there was a great shortage of hospitals to be designed! So I left my job, bought an Oric and basically went to work in my bedroom like a maniac. My start-up capital was the cost of the Oric, and that was all the money I had in the world. So I wrote the first of our games for the Oric to generate some income. They were pretty crap, but they sold really well as there was absolutely nothing available for the computer at the time. I could hardly not sell a game."

INSTANT EXPERT

The company name comes from one of the middle names of its founder, Robert James Durell White.

Durell Software began life on 14 February 1983 with Robert as its sole member of staff. Ron Jeffs and Mike Richardson joined the company four months later.

Durell's first Oric games (*Lunar Lander* and *Asteroids*) were written in BASIC and the listings were annotated with explanatory REM statements, the idea being that budding programmers could understand how the games worked.

In-house programmers were on a salary, but they were also paid a royalty of 50p per game sold.

***Harrier Attack* was** bundled with the Amstrad CPC464, adding another 100,000 units to the game's already stellar sales figures.

Despite releasing games on multiple formats, the Spectrum emerged as Durell's lead platform. Robert puts this down to Mike Richardson's skill with the machine.

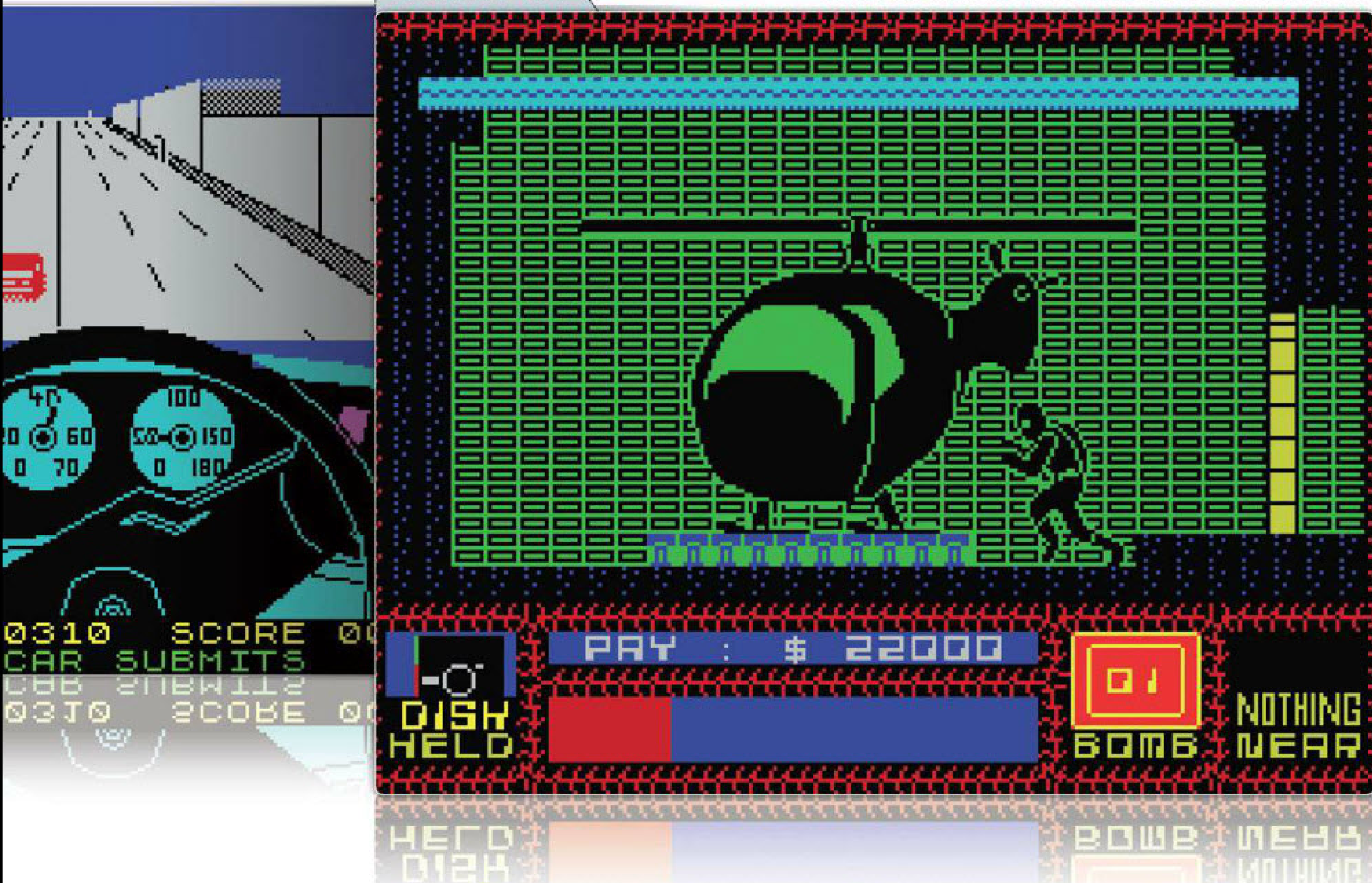
***Saboteur* was the** only Durell game to receive a sequel. According to Clive Townsend, it was simply down to the success of the first game.

***Turbo Esprit* is** often held up as the precursor to the *GTA* games, yet DMA Design's Mike Dailly has told us that the chief inspiration for *GTA* was the *Syndicate* games.

Staffing up

The very first Durell games were *Lunar Lander* and *Asteroids* for the 16K Oric. They were sold via mail order and as the orders stacked up, Robert quickly realised

SABOTEUR



that he didn't have enough hands to write programs and run the company at the same time. He needed skilled staff, so he placed an advert in his local newspaper looking for machine code programmers. The ad was answered by Ron Jeffs and Mike Richardson.

"It was one of those fluke things," says Ron. "I wasn't actually looking for a job, but my wife was. So we got the local paper and were looking through the vacancies and came across Robert's advert. I rang him and drove out there the same day and came home with an Oric under my arm!" Originally hailing from Brighton, Ron was an engineer by trade and developed an interest in programming after picking up a Sinclair ZX80. He left the German company Nixdorf Computer to join Durell at the age of 46.

Mike was 20 years Ron's junior, but in similar fashion, his interest in programming was initially just a hobby. "I used to work in an aerosol factory and I studied part-time at Bristol Polytechnic," he reveals. "Eventually I got an MSc in instrumental chemical analysis, and I was still doing that when I first started with Durell."

> **"I rang Robert and drove out there the same day and came home with an Oric under my arm"**
>
> RON JEFFS MAKES IT THROUGH DURELL'S STRINGENT HIRING POLICY



Robert hired Mike on the strength of a quaint Spectrum game he'd written called *Jungle Trouble*. "I saw a television advert for a game, which I think must have been *Pitfall*, and the game grew from that," says Mike. "It took me about five or six months to complete, but I was only doing it part-time as I was working at the aerosol factory at the time."

Robert liked the game and later released it for the Spectrum, but before that he had a game idea of his own that he wanted his new recruits to realise.

"The original *Harrier Attack* idea was Robert's," remembers Mike. "He thought that because of the Falklands War, the Harrier had been in the news a lot, and it would be a good idea to do a game based on that. Ron did the first version of the game for the Oric and I worked on the Spectrum version. It was a big help to have the Oric game as a guide as there was no decision-making to do along the way. There were no graphics or code sharing – I looked at what Ron had done, then went and did my own thing."

Ron adds: "Robert explained his idea and it was quite primitive really. You basically took off in your plane and got shot at, and you shot back, and that was it."

Harrier Attack was a simple *Scramble* clone wearing topical trousers, but Robert was convinced that it would be a hit with gamers. He was so certain that he booked £20,000 of advertising to promote the game. "By the time *Harrier Attack* was ready for release around September 1983, I'd used pretty much all of the company's money to pay Ron and Mike to that point, so I went off and booked all this advertising with no way of paying for it! But I was 100 per cent confident that it would work out. I remember saying to ▶

BY THE NUMBERS

29 The age of Robert White when he founded Durell in 1983.

500 The number of tape copies Robert made of his Oric assembler program. He sold them all.

5 The choice of skill levels offered to the player in *Harrier Attack*.

4 The number of Durell Spectrum games that were rated above 90% in *Crash* magazine. (The titles were *Critical Mass, Saboteur, Fat Worm Blows A Sparky* and *Thanatos*.)

0 The number of Durell Commodore 64 games that were rated above 90% in *Zzap!64*.

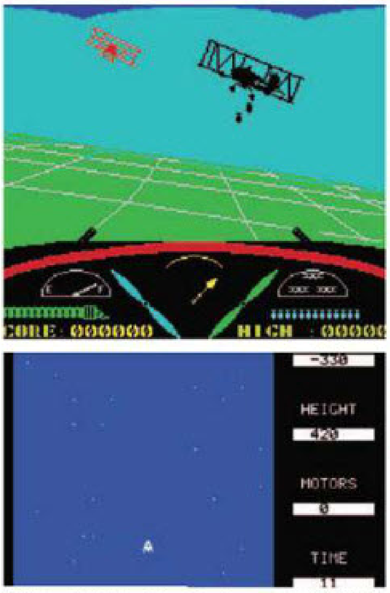
9 The percentage rating that *Zzap!64* awarded to the Commodore 64 version of *Turbo Esprit*. Yes, it really was that bad.

10 The number of months it took Mike Richardson to create *Turbo Esprit* for the Spectrum. This was the longest he spent on any game.

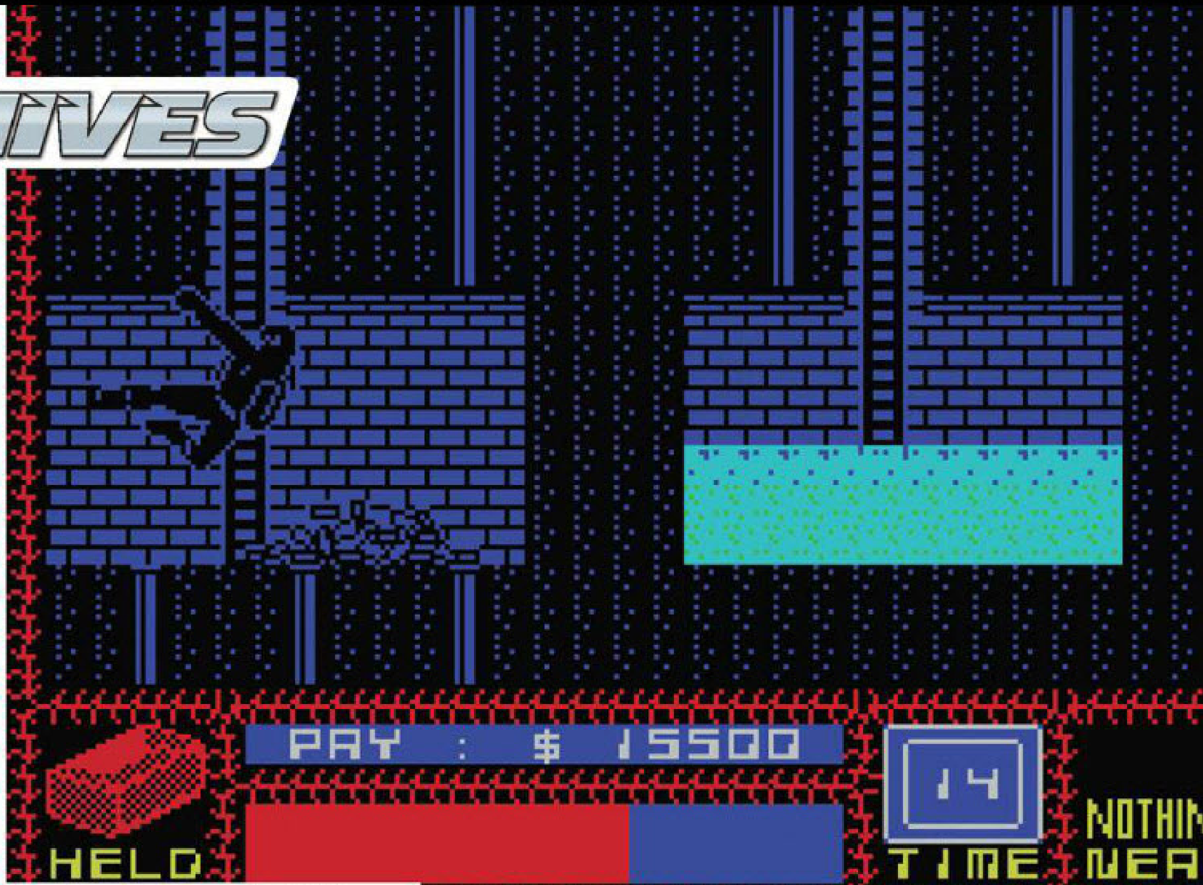
112 The number of screens in *Saboteur*. The sequel was roughly seven times bigger.

100,000 The number of copies of *Saboteur* sold on its initial release.

250,000 The number of *Harrier Attack* sales, including the copies bundled with the Amstrad CPC464.



[Oric] The BASIC listing of *Lunar Lander* was packed with helpful REM statements to show what each bit of code did.



[Spectrum] Although Clive's Spectrum version of *Death Pit* was cancelled, the game had an obvious influence on sections of *Saboteur.*

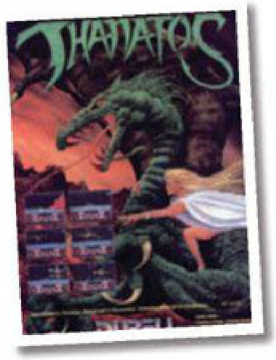
my wife one day, 'I think we'll probably make £40,000 by Christmas', and in the end that's roughly what we did. In my architect role I was earning £9,000 a year, so £40,000 was a huge amount of money at the time."

Chart attack

Sales of Durell software suddenly went bonkers. By July 1983 Robert had managed to shift 800 tapes, but by the end of the year that figure had risen to 20,000. *Harrier Attack* alone went on to sell a colossal 150,000 copies and the success of this single title funded game development for the next three years.

Mike devoted himself full-time to Durell and began work on underwater jaunt *Scuba Dive*. "Robert wanted us to do a *Frogger*-style game," says Mike. "We had an ideas meeting and decided to replace the frog with a diver and the obstacles with dangerous fish, and it grew from there, eventually into more of an exploration game." *Scuba Dive* was followed by *Combat Lynx*, an ambitious game that put players in control of a military attack helicopter. Although *Harrier Attack* was wildly successful, Mike wasn't about to replace the plane sprite with a chopper and be done with it. Instead, he crafted a game that was part shooter, part simulation, and featured great 3D graphics. "I always had a thing about not repeating myself," he says when asked about avoiding the easy option. "Besides, I had an idea about how to do a 3D landscape after seeing the output from a scanning electron microscope while I was doing a chemistry course."

> **"Sales had risen from 800 tapes to 20,000. Harrier Attack went on to sell 150,000 copies"**
> DURELL HITS THE GROUND RUNNING WITH ITS FIRST HIT



Thanatos came after Robert's decision to leave gaming for the more stable and predictable world of business software.

Robert realised early on that for a game to be a success, it needed to appear on as many platforms as possible. Lots of conversion work was handed to Ron Jeffs, who rewrote *Scuba Dive* for the Oric and *Combat Lynx* for the Commodore 64. Ron went on to port several more games to the C64 – and not just because he was familiar with the 6502 processor, which powered both the Oric and, in modified form, the C64. "It was partly because I had a grounding in the 6502 processor, but largely because Robert simply needed someone to write versions of the games for the C64. And because Mike was so good on the Spectrum, I stepped in to do the C64 stuff. I always thought the 6502 was one of the best processors anyway. It was so simple and that made it so fast. It really put the onus on the programmer to be smart with it."

Mike turned his hand to the Amstrad CPC when it was launched in 1984 and he quickly converted *Harrier Attack* to

WHERE ARE THEY NOW?



Robert White

The founder of Durell Software now runs Durell Solutions out of the same office complex in Taunton. The company provides administration software to the insurance industry. "Doing games was not a lot different from what we're doing now," he says. "It's about coming up with ideas to solve problems and trying to present the solutions attractively."

Mike Richardson (pictured)

Apart from a spell when he worked with Robert on business software, Mike has been involved with games for the past 20 years. He has written games for the PC, PlayStation and 3DO, and is currently working on iPhone software. In his spare time, he is studying maths at the Open University. He also likes to mess with electronics. "For Christmas I got a PIC microcontroller programmer board kit. I haven't done any soldering for a long time so I'm looking forward to playing with that."

Clive Townsend

The *Saboteur* creator now runs Incognito Games, which has produced many titles for mobile phones, including the 2007 hit *Sonic Jump* and the official *X Factor* game. In his spare time he plays too much *FarmVille* on Facebook.

Ron Jeffs

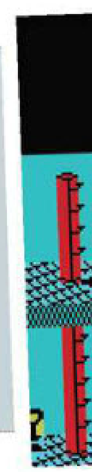
Ron has worked with Robert since 1983. He was Durell's head of support from 1988 until 2009, and now, aged 72, he has taken on a part-time role. According to Robert, he's still a very much appreciated member of the team.

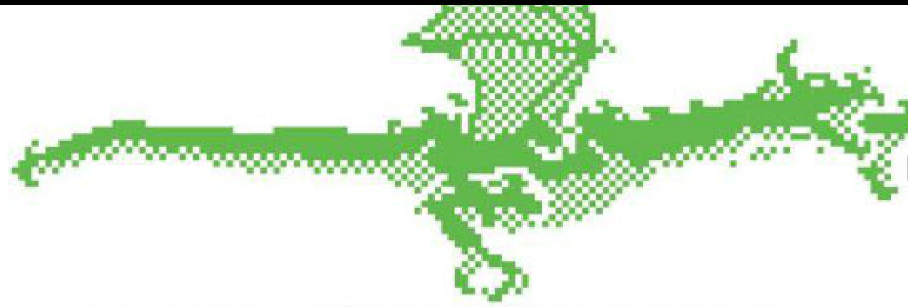
Julian Todd

For the past 17 years, Julian has used his geometric talents to write algorithms for CNC Machine Tools, based in Norwich. For fun he works on "disruptive political websites".

Nick Wilson

Nick has worked in the games industry for a number of years since he wrote *Deep Strike*, including a spell making games for Eidos. He currently runs StarByte Software, which is behind the iPhone games *Black Mamba Racing* and *NEX*.

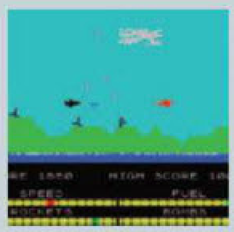




SIX OF THE BEST

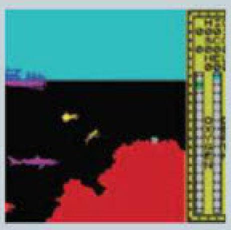
Harrier Attack
[1983]

Included not because of its importance in the history of Durell, but because it's a great little game in its own right that's perfect for quick blasts. It's probably best remembered on the Spectrum and Amstrad CPC, yet the Commodore 64 version comes out on top thanks to its slick graphics and decent sound effects.



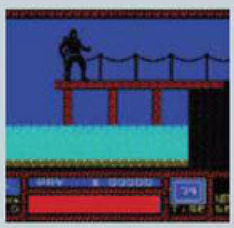
Scuba Dive
[1984]

Mike Richardson's first game of note was this cracking marine adventure, which saw the player salvaging treasure from the deep while avoiding all manner of underwater beasties. It's littered with lovely little touches, like the moving boat on the surface and the big ol' octopus guarding entry to the deeper caverns below.



Saboteur
[1985]

Yes, the game where you could kick dogs to death, but there's much more to *Saboteur* than wanton canine cruelty. The emphasis was on exploration, and discovering new areas in the huge enemy complex was perhaps more satisfying than actually completing the mission objective itself. *Saboteur* is a true 8-bit classic.



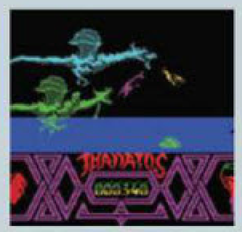
Turbo Esprit
[1986]

Widely considered to be Durell's finest release, this exceptional driving game invited you to race through 3D cities and bust drug smugglers while obeying traffic signals, pelican crossings and other rules of the road. Pretty epic – by the standards of the Spectrum, at least – and you can't say that about many 8-bit games.



Thanatos
[1986]

Durell games often featured flashy, high-tech scenarios, so this fantasy arcade game set in medieval times was a welcome change. Graphically it was amazing, particularly the main dragon sprite, but as with all of Mike Richardson's work, it was the little details about it that really stood out. A game made with obvious affection.



Saboteur II
[1987]

Subtitled *Avenging Angel*, the sequel featured a face-kicking female protagonist, which was a novel twist at the time. *Saboteur II* just about had the edge over the original – the game map was bigger and there were distinct missions that increased replay value. Plus, you could bust out of the enemy base on a red motorbike…



the new machine. The game attracted the attention of Alan Sugar, who was desperate for software to publish on his Amsoft label. The deal was done and *Harrier Attack* became one of the games bundled with the computer. "Alan is a smart businessman," says Robert. "You don't get a lot out of Alan Sugar. It was nice to shift an extra 100,000 copies through Amstrad, but he was on a very tight budget. I doubt in the end if he even paid 10p a copy. It wasn't a great deal for us, but it was a nice little extra."

For the BBC Micro, Robert looked to a couple of young programmers who had previously written games for the Acorn machine. Nick Wilson and Julian Todd were two school friends who grew up just 20 miles away from Durell's offices in Taunton. "We sold Durell one game for the BBC Micro called *Mineshaft*," says Julian, picking up the story. "Then we ported *Combat Lynx* from the Spectrum to the BBC over many weekends in

SABOT3UR?

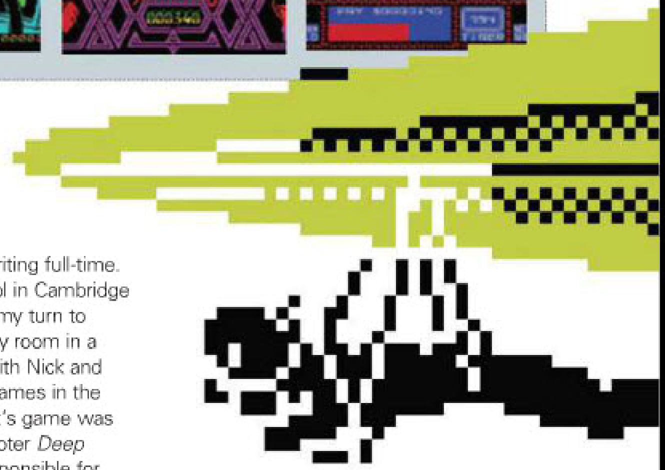
The full story behind the third *Saboteur* game would require an article in itself, so we'll briefly summarise the reasons why you've never had the chance to play it. The first attempt was made by Mike Richardson shortly before Durell sold its games to Elite. A design was drawn up and Mike created a bunch of sprites and even some mocked-up screens, but development ceased when the sale went through. Clive Townsend later started work on his own Spectrum sequel under the title *Saboteur 3D*. A demo was produced but Clive decided to shift development to the PC instead. The game then went through various iterations during the Nineties before being placed on the back burner around 1998, where it remained. More recently, Clive was speaking to a developer about resurrecting *Saboteur 3*, but once again it didn't work out. "Sadly the developer didn't actually set up the company as he'd planned, so nothing was ever done," reveals Clive. "I still have an extensive design document, though, so if there are any serious producers out there, they should get in touch!"

So one day we may get to play a new *Saboteur* game, and there's even a chance that Clive's *Saboteur 3D* demo for the Spectrum may surface. "I found a load of Microdrive cartridges, but none had *Saboteur 3D* on them," he says. "I'm starting to suspect that it was on a Spectrum +3 disk, so I'll have to check the loft…"



[Spectrum] Here's a glimpse at Mike Richardson's unreleased *Saboteur 3*. This screen, and many others, were recently retrieved from Mike's old Microdrive cartridges.

Nick's bedroom. When that was done, Nick dramatically cleared his desk in the middle of the week and dropped out of school to pursue games writing full-time. Later, after attending school in Cambridge for several months, it was my turn to drop out. I rented a crummy room in a shared house in Taunton with Nick and we each worked on new games in the Durell Software attic." Nick's game was the impressive biplane shooter *Deep Strike*, while Julian was responsible for the utterly bizarre – but in a good way – *Fat Worm Blows A Sparky*.



New recruits

More fresh faces soon appeared. Simon Francis was a college kid who impressed Robert with a dungeon game he'd written for the Dragon 32 called *Pit Fiend*. He joined the company in early 1985 and reworked *Pit Fiend* as *Death Pit* for the Amstrad CPC, then authored the *Dune*-inspired Spectrum game *Critical Mass*.

Another new starter was budding Z80 programmer and martial arts enthusiast Clive Townsend, who happened to live on Durell's doorstep in Taunton. He hung around the offices and was initially employed as a graphics dogsbody. His first two games as a programmer – a platformer called *Chicken* and the Spectrum version of *Death Pit* – were both canned, but it was a useful learning experience as he acquired enough machine code knowledge to bring alive his 'pet project', an arcade adventure he'd named *Ninja*. "Clive had a great visual sense and one day he came in with some graphics of people who could punch and stuff," remembers Robert. "I said, 'That would make a great game, so let's come up with a storyline and put it together.'" That's exactly what they did, and the result was *Saboteur*, a solid-gold smash that went on to sell more than 100,000 copies and become Durell's second bestselling game after *Harrier Attack*.

While *Saboteur* was assailing the charts, Mike was busy fine-tuning his most ambitious project yet. "It was Robert who suggested that I should do a driving game," he says. "He wasn't very specific. It was also his idea to tie it in with Lotus." With the basic concept in place, Mike went off and created the Spectrum classic *Turbo Esprit*. Making the game's 3D cities come to life was no mean feat for Mike. "I'd just done *Combat Lynx*, so I was keen to use a similar type of 3D system. There were lots of tricks I used to get the speed up. It was all done using a lookup table so there were no 3D calculations. I really had to use every available bit in the Spectrum to do it."

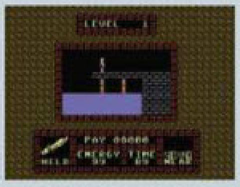
Turbo Esprit sold 50,000 copies, and while it couldn't match the success of

FROM THE ARCHIVES



[Spectrum] Although extremely simple in nature, *Jungle Trouble* was a strong seller in the Spectrum's early days.

THREE TO AVOID



Saboteur Jr [1986]

Okay, so there was no actual game with this title, but we can't think of a better way of referring to the Commodore 16 version of *Saboteur*. Featuring minute graphics and dozens of samey screens, it was a sorry affair all round. At least Plus 4 owners received a version based directly on the Spectrum original.



Sigma 7 [1987]

This misguided space romp was made up of three mini challenges: a *Zaxxon*-style shooter, a *Pac-Man* maze game and a puzzle section. None were particularly bad, but they failed to hang together as a complete title. The isometric graphics were good, though, so maybe it's worth a look for that reason alone.



Chain Reaction [1987]

One of Durell's last releases was also one of its least impressive. Reminiscent of Ultimate's 3D games, only without the charm, *Chain Reaction* tasked you with exploring a nuclear power station and gathering up dangerous radioactive waste. Despite you racing against the clock, the gameplay was yawn-inducing.

Saboteur, it proved that the firm could still produce sizable hits in a marketplace that had become much more competitive. Yet to stay in the race, Durell had to continually strive to develop innovative new products that would stand out from the crowd. It was a challenge that the programmers appeared to relish, but it came at a cost: games were taking longer and longer to develop. Take Mike's Spectrum output, for example: he wrote the Spectrum version of *Harrier Attack* in two and a half weeks, while his next game, *Scuba Dive*, took three months. This was followed by *Combat Lynx*, which was eight months of work, and then he devoted ten months to *Turbo Esprit*.

Mike reveals that no firm deadlines were ever put in place and he never felt under pressure to get a game out the door. "Ten months was a long time, but personally I always felt that it was worth putting in as much effort as possible and would probably have resisted pressure to cut corners quite strongly. One thing about Spectrum development at that time was that once the 48K had been filled, there wasn't much more that you could do. That used to be my cut-off point. I think the lack of pressure certainly did make for a better game, although I can imagine that Robert may have been a bit anxious at times."

"By 1987, the financial rollercoaster was too scary. I just couldn't sleep at night"

ROBERT WHITE ON HIS DECISION TO GET OUT OF GAMING



Mike was correct and Robert did indeed have cause for concern. "It had become an incredibly risky business," he says. "There was increased competition and we had to keep coming up with new games, new ideas. It soon became that every game we launched was around an £80,000 gamble. Some of the games worked and some didn't, regardless of critical acclaim. For me personally, by the time we got to 1987, the financial rollercoaster was just way too scary. It got to the point where I just couldn't sleep at night, so I made the decision to move into business software."

While the company continued to put out impressive games during this period – Mike's *Thanatos* and Clive's *Saboteur II* were of particular note – Robert began parallel development of a database program aimed at the insurance industry. When between games, programmers would often get involved – Clive remembers working on the graphical interface for the application. Then, in December 1987, Robert made the shift complete by selling the rights to Durell's games to Elite Systems. Elite boss Steve Wilcox was looking to expand and viewed Durell as a decent acquisition: "We had an

TIMELINE

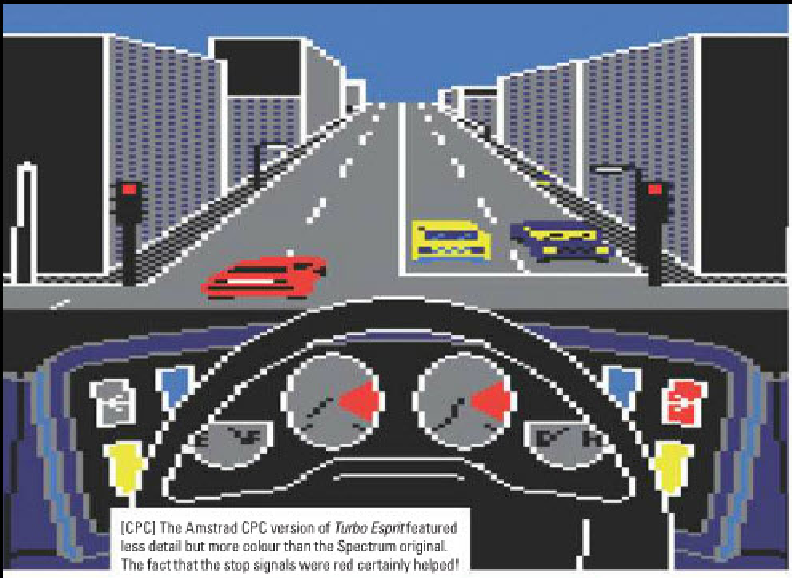
1983
ROBERT WHITE FOUNDS DURELL SOFTWARE IN FEBRUARY OF THIS YEAR, AND RON JEFFS AND MIKE RICHARDSON JOIN IN JUNE. BEFORE THE YEAR IS OUT, DURELL RELEASES SEVERAL GAMES INCLUDING *GALAXY 5* (ORIC), *JUNGLE TROUBLE* (SPECTRUM) AND *HARRIER ATTACK* (ORIC AND SPECTRUM).

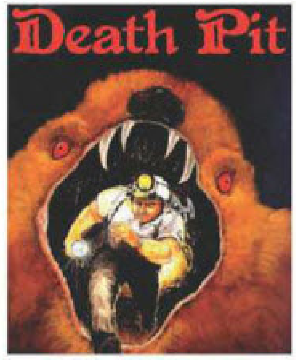
1984
DURELL KICKS OFF THE YEAR WITH *SCUBA DIVE* (ORIGINALLY FOR THE SPECTRUM, WITH ORIC AND COMMODORE 64 VERSIONS FOLLOWING), AND ENDS IT WITH *COMBAT LYNX* (AGAIN, WRITTEN FOR THE SPECTRUM BUT PORTED TO OTHER PLATFORMS). THE COMPANY ALSO RELEASES ITS FIRST BBC MICRO GAME, THE *MANIC MINER* VARIANT *MINESHAFT*. *HARRIER ATTACK* IS BUNDLED WITH THE NEW AMSTRAD CPC COMPUTER.

1985
SIMON FRANCIS AND CLIVE TOWNSEND JOIN THE COMPANY. SIMON WRITES *DEATH PIT* FOR THE AMSTRAD CPC AND *CRITICAL MASS* FOR THE SPECTRUM, WHILE CLIVE CODES *SABOTEUR* FOR THE SPECTRUM.

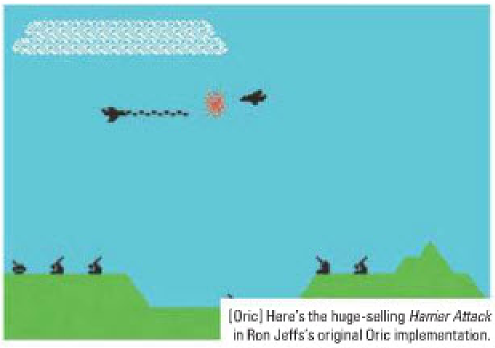
1986
DURELL RELEASES TWO SPECTRUM GAMES BY MIKE RICHARDSON: *TURBO ESPRIT* AND *THANATOS*. FORMER DURELL FREELANCERS NICK WILSON AND JULIAN TODD ARE ADDED TO THE PAYROLL AND THEY AUTHOR *DEEP STRIKE* AND *FAT WORM BLOWS A SPARKY* RESPECTIVELY. THE DURELL *BIG 4* COMPILATION IS RELEASED, FEATURING *COMBAT LYNX*, *CRITICAL MASS*, *SABOTEUR* AND *TURBO ESPRIT*.

1987
SIGMA 7, *SABOTEUR II* AND *CHAIN REACTION* ARE RELEASED. DURELL DEVELOPS ITS FIRST DATABASE PROGRAM (INSURANCE MASTER). AT THE END OF THE YEAR, DURELL SELLS ITS BACK CATALOGUE OF GAMES TO ELITE SYSTEMS AND CONCENTRATES SOLELY ON BUSINESS SOFTWARE.


[CPC] The Amstrad CPC version of *Turbo Esprit* featured less detail but more colour than the Spectrum original. The fact that the stop signals were red certainly helped!




Clive Townsand being manhandled by a ninja in this memorable photo, which appeared in *Crash* magazine.


[Oric] Here's the huge-selling *Harrier Attack* in Ron Jeffs's original Oric implementation.


Robert White (right) shows Mike Richardson the capabilities of his Oric computer.

acquaintance with Robert and were keen to continue to grow our business, including our budget and compilation business. We had no significant regrets about the deal we did for the Durell catalogue and would probably have done it again if we had our time over."

With the games gone, Robert spent the next two years developing his Insurance Master program. The bold move to stabilise the company paid off and it continues to trade to this day under the name Durell Solutions. "We're still developing and selling insurance software, 20 years on. It doesn't make a lot of money, but it never makes a loss. I've kept a lot of people employed for a long time and I feel quite good about that."

Looking back

Durell has now been around for 27 years, and while only the first four years focused on gaming software, the place holds happy memories for those ambitious young programmers who plied their trade in sleepy Somerset. "They were the best years of my working life," says Mike Richardson. "There's no feeling like finding you're good at something, seeing your work on shop shelves, getting amazing feedback from people enjoying your work, and getting paid well for it as a bonus."

Saboteur creator Clive Townsend, who now runs mobile developer Incognito Games, remembers his coding colleagues with fondness: "I think we were all sad when Durell stopped making games, but I'm proud to have worked with such a talented bunch of people. Robert was brilliant. It was a very relaxed atmosphere, and as we didn't actually have design specs for our games, we didn't really have deadlines either! Many of the game designs grew organically, which meant they were finished when they were finished. I've had lots of fun in the industry since, but often big business and red tape can get in the way of creative development. If only more bosses were like Robert."

Julian Todd of *Fat Worm* fame also remembers Robert as a decent and honourable boss: "He barely interfered. Today I do a little bit of management of programmers, and I know it is impossible to hassle them, as you simply annoy them and yourself. Being relaxed is pretty much your only option, whether you like it or not. I would like to meet Robert again now that I have experienced the other side of business. I am fascinated that he pulled it off and made a living out of us kids. He paid 50p per copy sold, and I got cheques totalling several thousand pounds, so he was very honest. He could easily have not paid me anything."

Robert himself feels that it's important to look forward more than back, yet there are reminders of his firm's gaming legacy all around him. Cover art from various Durell hits adorns the office walls, he keeps in regular touch with many of his old employees – indeed, Ron Jeffs still works with him – and the £100 he used to buy that first Oric is still there on the company balance sheet. Above all that, Durell's games are still remembered and revered by too many people to ever let them fade into obscurity. "I think at Durell we had a lot of really original ideas," he acknowledges, then regales us with a fitting tale. "Just yesterday I was on site talking to a potential customer and he said, 'You're not the Durell who wrote *Harrier Attack*, are you?' And I replied, 'Yeah, that was us', and then his partner came in and piped up, '*Saboteur*! That was a great game!' So yes, it's still a lot of fun. I guess people have fond memories of our games, and I do too."

HARRIER DOWN

When **RG** interviewed Mike Richardson about *Turbo Esprit* in issue 36, he revealed that he'd formed a new company called Durell Games and was working on *Harrier Attack II* for the PC. The game, which married the classic 2D gameplay of the original with slick 3D visuals, was made available to download in October 2007 after three years in development. It bombed.

"It was a complete disaster," says Mike. "I think I sold something like six copies. I try not to think about it too much. The main thing I learnt was not to try it again. Before I did *Harrier Attack II* I would hear other programmers saying how it was possible for a game to sell millions or none at all, and I didn't believe it. How is it possible to sell nothing of anything? Now I know I can do it."

After that harsh lesson, Mike went on to work for Electronic Arts, helping out on the PC versions of *Burnout Paradise* and the latest *Harry Potter* game. He has since joined up with his former Durell colleague Nick Wilson at iPod/iPhone game developer StarByte Software. His current project is a racing game called *Black Mamba 3D*.




[PC] Mike's long-awaited *Harrier Attack II* sadly failed to get off the ground.

IMPORT ONLY

» CO-ORDINATES: 35°41'N 139°46'E

GAME ORIGIN



- » **COUNTRY:** JAPAN
- » **POPULATION:** 127,433,494
- » **CAPITAL:** TOKYO
- » **NATIONAL LANGUAGE:** JAPANESE
- » **CURRENCY:** YEN
- » **TIME ZONE:** GMT +9

INFO

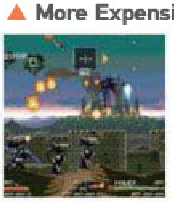


- » **PUBLISHER:** EXACT
- » **DEVELOPER:** IN-HOUSE
- » **FEATURED HARDWARE:** SHARP X68000
- » **ALSO ON:** N/A
- » **GENRE:** ACTION
- » **RELEASED:** 1991
- » **EXPECT TO PAY:** Y2,400 (£15)

PRICE WATCH

» Similar titles to splash cash on

▲ More Expensive Than



RANGER X
GET IT FOR: **£10**
There's no swinging, but as it's available for less than a tenner, this is one of the best and cheapest mecha games on the Mega Drive. Control a massive robot and his motorbike as you blow up scores of enemies.

▼ Cheaper Than



METAL WARRIORS
GET IT FOR: **£40**
Of all the games in the *Valken* mould, this is probably the most expensive. Lucasarts-made, it was only released in America, but is worth the price if *Aquales* leaves you hungry for more.

AQUALES

» Fan of the Bionic Commando series? Like heavy metal? What about insanely-armed mecha robots blowing the crap out of each other? If your answers are yes, yes and mother-hugging yes, then John Szczepaniak reckons you should check out Aquales

They don't make 2D games like this anymore. The days of side-scrolling action games, especially those featuring giant robots, are long gone, as are 2D games with multiple layers of rich parallax scrolling. There are still a few modern 2D, non-polygon releases, with some such as *Muramasa* being very impressive, but whether due to lack of budget or demand, there's not as much flair these days.

Most retro fans will have heard of *Assault Suits Valken* on the SNES, known as *Cybernator* in the West. A fantastic and deservedly loved action title where you roamed maze-like levels blowing up other robots, with an impressive sense of scale, some explosive set-pieces and a decent storyline. It was actually preceded by the lesser known *Assault Suits Leynos* (*Target Earth* in the West) and, unsurprisingly, it also spawned several follow-ups and imitations, such as *Metal Warriors* and *Front Mission: Gun Hazard*.

Aquales could easily be mistaken for just such an imitator, except that it was released in 1991, after *Leynos* but prior to *Valken*. Along with its similarity to the *Assault Suits* series it also has resemblances to other games – for one thing, certain weapons almost feel like something out of *Ranger X*, and one music track in particular sounds like it's lifted straight from *Ecco the Dolphin*. Of course, *Aquales* predates all of these. The only obvious game known to the West from which it does draw inspiration would be *Bionic Commando*, since *Aquales* features the same rigid grappling mechanics (those expecting the realistic, stretchy physics of *Umihara Kawase* should look elsewhere).

» [Sharp X68000] Be careful on this futuristic speeding train; there are flying enemies zooming around trying to knock you off.



Aquales is a forgotten evolutionary ancestor. Heavily influenced by obscure titles such as Zoom's 1989 mecha-actioner *Genocide* – except instead of *Genocide*'s slow-ambling bipeds and insipid combat, developers Exact pumped things up to create something special – it never made the jump to popular consoles the way *Genocide 2* did



» [Sharp X68000] Flying enemies zoom in and out of the background in these underground caves.



» [Sharp X68000] Later enemies also acquire the use of a grappling arm.



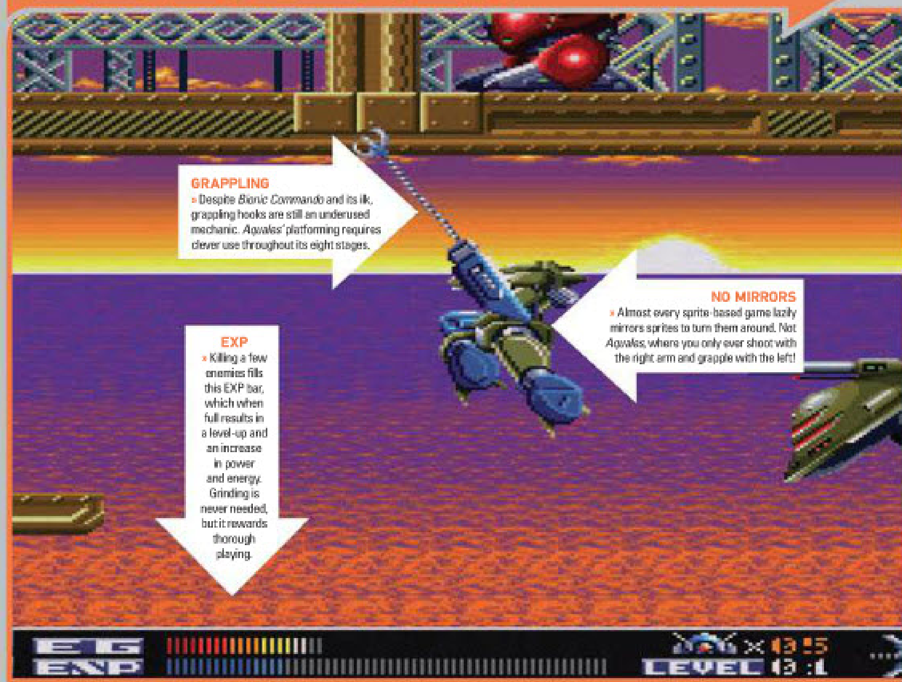
» [Sharp X68000] The green enemies in these forgotten ruins have a deadly rushing attack.



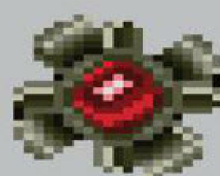
» [Sharp X68000] Against the backdrop of a sunken ship, you battle a giant sea snake.

GO DEEPER

What to look for when playing Aquales



> **"What makes Aquales special is the panache with which it pulls things off"** EVERYTHING OOZES THE KIND OF 16-BIT ENERGY YOU'D EXPECT FROM A TREASURE TITLE



and, while it possibly influenced later Japanese developers, *Aquales* remained unknown in the West.

For anyone with a long-running interest in games, nothing in *Aquales* should appear new or ground-breaking; despite only existing on an archaic Japanese home computer, it contains elements found in dozens of later, far more common titles. What makes it special is the panache with which it pulls things off – everything about it oozes the kind of 16-bit energy you'd expect from a Mega Drive Treasure title. It may not be as refined as a Treasure game, since the enemy AI is a little too scripted and the action is never quite as spectacular as something like *Alien Solder*, but *Aquales* tries very hard to make you like it.

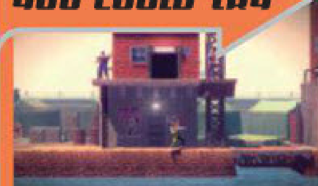
The music throughout is nothing short of incredible, containing a blend of hard-rocking heavy metal, with some outstanding guitar riffs mixed in with more ambient and eerie tunes for the underwater ruins. Gameplay, while not overly varied, is solid and compelling. There are 12 weapons to find over eight lengthy stages, each of which pulsates with the kind of detailed parallax scrolling, enormous sprites and special effects we've not seen since *Thunder Force IV*. It's difficult to capture this splendour in screenshots – only in motion can you truly appreciate it.



Along with the expected swords, chainguns and rockets, there are also bouncy bullet weapons, blades on retractable chains and – our favourite – gravity flame throwers where the fire clings to and races along whatever surface it touches. The most significant item, however, is your grappling hook, capable of latching on to any surface and carrying you safely across hazards. Required throughout the game (as commonly as jumping or attacking), it keeps the game's tempo interesting, There are plenty of other small touches too, such as gaining experience points for defeating enemies. Rather than artificially lengthening the game, this instead allows for semi-random power-up moments.

It would be easy to nitpick at *Aquales'* various faults, such as the difficulty, which sometimes fluctuates between too difficult and too easy, or the occasionally clunky controls endemic of computer games. Nonetheles, for a game released in 1991 its ambitious nature – faults and all – is admirable. It is at once wholly familiar, and yet also exotic and captivating because it has remained unknown for so long, making it well worth the effort of tracking down.

CAN'T IMPORT? YOU COULD TRY



BIONIC COMMANDO REARMED

» It may not have *Aquales'* soundrack, but *Bionic Commando Rearmed* is available for download on PS3, 360 and PC, which benefits from improved visuals and retains the same classic gameplay. For those wanting a little less action than in *Aquales*, this has a greater emphasis on swinging.

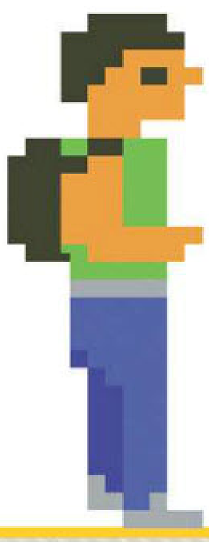


In the chair with...

DAVID CRANE

He's the designer of the bestselling game on one of the most iconic videogame consoles in history, and co-founder of the largest and most significant videogame company to come out of the Eighties. Join us as we look back on David Crane's amazing career

Following a telling company memo and a life-changing game of tennis, Crane left Atari in 1979 to form Activision with fellow Atari coders Larry Kaplan, Alan Miller, Bob Whitehead and music industry exec Jim Levy. Here this talented collective aimed to create original, high quality VCS titles, award programmers recognition for their work, and, most importantly, separate the software business from the hardware. Having completed his 68th published game, David chats to Stuart Hunt about his prolific career and shares his thoughts on the new-generation Activision…



RETRO GAMER: Thanks for giving up your time to speak with us today, David. Tell us, what did you want to do when you were at school?

DAVID CRANE: There were three main factors driving me through my early years at school. First, I was always fascinated with technology and engineering. I found it difficult to imagine that anyone could look at a television screen, for example, and not want to understand how a picture could be plucked out of thin air and 'painted' onto the back surface of a glass tube. By the time I was 12 years old I knew the answer to that question and thousands of other technological mysteries. Second, when we are young we don't have the financial resources to simply buy something to fill a need, so I became an inventor. Using junk from around the garage, or parts from an Erector Set, I tinkered in the basement at all hours (when I was supposed to be studying). Some examples include:

When our small town first opened a community swimming pool I spent so much time there that I sunburned my shoulders to a crisp. I built a foot-pedal-operated mechanism attached to the wall that sprayed my shoulders with sunburn spray.

For a science fair I designed and built an unbeatable Tic-Tac-Toe machine using nothing but rotary switches and lights. Sadly, it went up in smoke the night before the competition.

When I received an old, used black and white television as a birthday gift I dismantled it so that I could have the channel tuner near my bedside and the TV in a cabinet on my wall.

To impress the neighbourhood I fashioned a 'laser' that, in a flash of light, could ignite a match at the far end of a workbench (a loop of Nichrome wire around the match head completed that illusion).

Finally, my mother, an artist trained in a number of painting styles, made sure I experienced the arts. I took watercolour painting classes and such, but I never developed much of an interest. A painting took too long to perfect, and when you were finished you only had a single copy. So besides getting a little right-brain training I also learned the value of mass production.

Given these factors I was certain that I would end up designing household gadgets to improve the quality of people's lives. I had the technological skills to make almost anything work, and I had just enough aesthetic training to understand the need for look and feel. Ironically, videogame design was even a better fit for that combination of skills. But as I was growing up there was no such thing as a videogame, so how could I know?

RG: Tell us about your first experience with a computer…

DC: Home computers did not arrive until I was in college. But mainframe computers from IBM could be found in some businesses, and I had a lucky connection. I was in the Boy Scouts, and my Scoutmaster worked in data processing. On a visit to his office I became fascinated with the equipment. I asked to be one of the first to attempt to earn the newly created Computer Merit Badge. Through his help and access to his facility, I learned the Hollerith code for punched cards (I still remember



SELECTED TIMELINE

Outlaw 1978
Canyon Bomber 1978
Slot Machine 1979
Fishing Derby 1980
Dragster 1980
Laser Blast 1981
Freeway 1981
Pitfall! 1982
Grand Prix 1982
The Activision Decathlon 1983
Pitfall II: Lost Caverns 1983
Ghostbusters 1984
Little Computer People 1985
Transformers: The Computer Game 1986
Skate Boardin': A Radical Adventure 1987
Super Skateboardin' 1988
A Boy And His Blob: Trouble On Blobolonia 1989
Rescue of Princess Blobette 1990
Bart Simpson's Escape from Camp Deadly 1991
David Crane's Amazing Tennis 1992
T*O*Y*S 1993
Home Improvement: Power Tool Pursuit 1994
Arcade Bowling 2009
Ten Pin Championship Bowling 2009
Boardwalk Games 2009
Iron Horse 2010

"To impress the neighbourhood I fashioned a 'laser' that in a flash of light could ignite a match at the far end of a workbench"

that code), and got a good grounding in the technologies involved.

A few years later, in high school I attended a computer programming extension campus. I travelled by bus every morning to a nearby city, studied computers for three hours, and returned to my normal school for the afternoon. I was one of the few people in the Seventies to leave high school programming computers in three languages.

RG: And what was the first game you actually encountered?

DC: My parents bought the first Magnavox Odyssey home game console. This unit displayed squares of light on the screen with no graphics. Magnavox supplied coloured overlays that you would stick on the TV screen to make different games. I have to admit that I was bored by the rudimentary games, but I was fascinated by the potential of the technology.

RG: When did you first think: I could make a career out of this?

DC: It would be years before I thought of making a career in videogames. My head was brimming with inventions. Tired of resetting digital clocks after a power failure I invented a clock that derived its display by communicating over a power-line-interface with a master clock. To accompany me as I learned to play the guitar I created a programmable drum machine (I even tried to market that one through one of those late-night infomercial invention marketing companies). I even designed a 3D TV using a flat, spinning phosphor target inside an evacuated sphere.

I had too many things to invent – who had time for games?

RG: What did your parents think about you joining the industry?

DC: My parents helped me move to Silicon Valley after college. They looked around and saw ten high-tech businesses per block, and they knew I

* FIVE TO PLAY

PITFALL!



THE CONCEPT MAY have taken David ten minutes to think up, but that didn't stop *Pitfall!* becoming the bestselling 2600 game of all time, selling over 4 million copies on the console alone. The game saw an adventurer named Pitfall Harry on a mission to find 32 pieces of treasure while having to negotiate various environmental hazards and deadly creatures along the way. *Pitfall!* was praised for its quality visuals, slick gameplay and animation, and quickly gained interest from VCS owners on its release owing that there was nothing else like it on the machine. The game's popularity and success helped to bring David and Activision immediately to the fore, and in the following year a sequel, *Pitfall 2: Lost Caverns*, was released. The follow-up was notable for featuring scrolling and for expanding and refining all areas of the game.

A BOY AND HIS BLOB: TROUBLE ON BLOBOLONIA



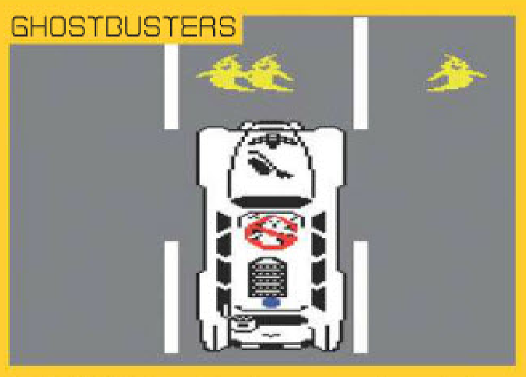
AFTER FINISHING *PITFALL 2*, David left the action/adventure game genre for a while and didn't return to it until 1989 with the release of this quirky NES platformer. *A Boy And His Blob* shares many similarities with the *Pitfall!* series. Where the games differ is *A Boy A His Blob*'s unique buddy system: the player controls the boy but is aided on their quest by a computer-controlled character named Blob, who acts like an obedient pet during the game. The player can influence Blob's actions by feeding him different flavoured jellybeans that transform him into a variety of useful objects to solve the game's puzzles. Released solely for the NES, the game was a huge hit.

DAVID CRANE'S AMAZING TENNIS



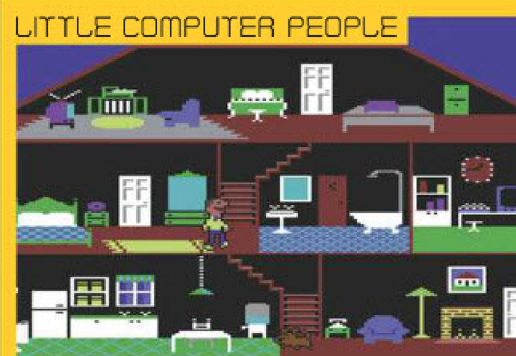
GIVEN THAT DAVID is a huge fan of tennis it comes as little surprise that he would decide to marry his passion for the sport with videogames, and in 1992 he did just that when he released *David Crane's Amazing Tennis* – a comprehensive tennis simulator. The game was notable for featuring a 3D court and an attention-grabbing perspective: the camera was positioned just behind the camera as opposed to above the court, which gave the game a more realistic feel. The game also featured a host of customisation options, as well as a large amount of shot types – such as lobs, slices, back and topspin, left or right-handed play – and slow-motion replays too.

GHOSTBUSTERS



ONLY DAVID CRANE could turn the most successful comedy film of the Eighties into a business sim and still capture the magic of the movie so brilliantly. Activision's *Ghostbusters* plonked players inside the slime-covered boots of the eponymous team of paranormal exterminators. Starting out by purchasing your very own Ecto-1, you equipped your team with various gadgets before traversing the many blocks of New York City, busting ghosts until your inevitable date with Gozer. Turned around in just six weeks, *Ghostbusters* boasted fantastic visuals, a catchy rendition of the theme tune, and varied gameplay you'd boot up time and time again, even after completion.

LITTLE COMPUTER PEOPLE



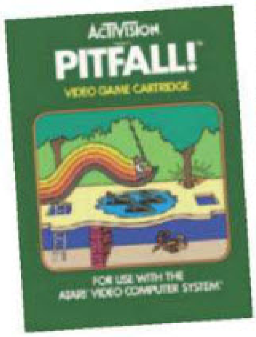
UNDOUBTEDLY A PRECURSOR to the Tamagotchi and Will Wright's super-successful *Sims* series, the high concept behind *Little Computer People* caused quite a stir on its release. The original idea can be credited to artist/musician Rich Gold, who came to Activision with an idea to produce a software version of the Pet Rock. Activision invested thousands in the project, and David helped Gold refine the concept – adding the interactivity and communication element that existed between the player and their suited man-pet. Amazingly, each LCP was unique to each disk, meaning each copy of the game would play slightly differently to the next.

would be fine. To them Atari was just another computer business (my Mom was soon even happier, because I made her a *Slot Machine* game that she could play at home any time, day or night).

RG: What jobs did you do before working at Atari?

DC: My first job in the Valley was as a technician at National Semiconductor. I had worked for a couple of years at school as the lab professor's technician. When he created new lab projects for students I had to build them first and help tweak them for the class. I also built my first computer in college – a machine that plays Tic-Tac-Toe (which still works).

With all of the experience I had working with digital circuits, I recognised that there were some fields of electronics with which I had no practical experience. I took the job at National working with linear integrated circuits, stunning my advisors (that is as far away from computer chips that you can get). But I had a plan. To be the inventor I wanted to be, I needed to be proficient in many areas of electronic design. That job was just the next step in my career development.



RG: Can you tell us what was it like working at Atari?

DC: I wasn't sure I would like programming games. My first love has always been designing electronic circuits, and this would be only programming. As it turned out I still got my fill of circuit design over the years, developing a number of electronic circuits to help make game design easier. But I found that I enjoyed microprocessor programming and game design.

The working environment in my first days at Atari was very rewarding. My co-workers were dedicated professionals working hard to advance the state of gaming. Nolan Bushnell would come by occasionally to see what cool thing we were working on – although his catch word was "neat". The hot tub parties in the lobby and drug use in the office was long past, which is good because I wouldn't have tolerated that. I was only there for two years before Atari lost its way. I got out and started Activision just in time.

RG: How many games did you work on there?

DC: While at Atari I designed and programmed: *Outlaw*, *Slot Machine* and *Canyon Bomber/Depth Charge*. Then the Atari 800 computer needed software help so all of the original 2600 game designers stepped up and wrote the operating system for Atari's new line of personal computers.

RG: So tell us about the genesis of Activision; how was it formed?

DC: A lot went wrong at Atari in 1979, in spite of the fact that they were making $100 million per year selling videogame cartridges. They made a classic mistake, one that is repeated over and over in every business. They didn't follow rule number one: If you make your living on creative products, keep your creative talent happy.

Four of Atari's most successful game designers: Larry Kaplan, Alan Miller, Bob Whitehead and I tended to hang around together. One day we discovered that we four had created games that accounted for 60 per cent of Atari's $100M in game cartridge sales for the previous year. We were making less than $30K salaries.

When we asked Atari's new president (Nolan was no longer there) for a piece of the action, we were told 'You are no more important to the success of those products than the person on the assembly line who puts them together.'

We didn't agree so we left to form our own game publishing company. We met up with Jim Levy and together created Activision.



» David invented many things before designing games, including a programmable drum machine.

> "I was only there for two years before Atari lost its way. I got out and started Activision just in time"

RG: You must have felt tremendous satisfaction when you were finally given credit for the games you made…

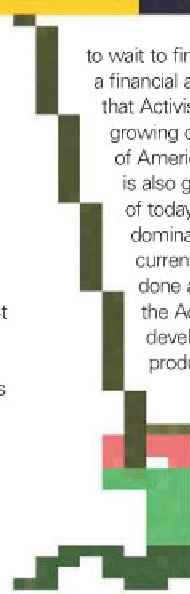
DC: That was a founding premise of the company. We started our own publishing house because we felt that people would like to know who authored their favourite game so that they could buy their next one.

What was really fun was going into the game store the day our first four games shipped. The owner of the store was just unpacking the boxes and looking at our pictures as we entered the store. He did a classic double-take.

RG: When you co-founded Activision in 1979 did you ever anticipate it would become one of the biggest companies in the industry?

DC: At the founding of the company, videogames were largely considered a fad. We certainly knew better. The videogame provided a way to interact with your TV, which promised a more immersive experience than either television or movies. And both television and movies had proven themselves to be more than just a fad.

The Activision of the 1980s very quickly became the biggest company in the industry. So we didn't have long to wait to find that out. At one point a financial analyst made the case that Activision was the fastest-growing company in the history of American business. I think it is also great that the Activision of today has regained that dominance. The company's current management has done a great job of leveraging the Activision name and developing cutting-edge products that continue to keep it at the top.



RG: What would you say was the secret to Activision's early success?

DC: In the early days of Activision our primary focus was quality. We continued to work on a game until the whole group could say it's as good as it's going to get. Most times that meant a whole lot of rewriting and tweaking. And sometimes a game never reached that threshold and it was shelved.

Uncertain schedules played havoc with the sales and marketing folks, making it hard to predict when the next game would be coming. But

after a while we got pretty good at predicting, and we were able to commit to a number of games from each designer (we just couldn't say what the game would be until it was finished).

We were the small, upstart company so we couldn't let our players down. And we succeeded... People raved that each Activision game was better than the last, and far ahead of the competition.

RG: Activision had always striven to create new IP instead of arcade ports. Why was this?

DC: That was a sign of the times. The Atari 2600 was designed to bring Atari's arcade games to the home. A lot of the game development time at Atari was taken up making home versions or their arcade games. Activision didn't own any arcade hits, so we had to create new games from scratch. Of course, that was more fun anyway.

The market was pretty small at that time as well. When there are only two dozen games on the shelf, a buyer can study all of them before making a choice. Once there were hundreds of games it made sense to attach a pre-sold label to a game.

RG: And how do you think the Activision of yesterday compares to the one of today?

DC: There is no comparison. The Activision of the Eighties was a research project. Every aspect of the business, from technology through marketing had to be invented. You could fill a textbook with the ideas pioneered by the over-achievers who flocked to work at Activision. And many of those ideas are still in use today.

Today's Activision is a highly evolved publishing business. They are very good at what they do. But to try to compare the two companies would be like comparing America's founding fathers to Washington DC of 2010.

RG: Where did the idea for *Little Computer People* originate?

DC: The germ of the idea came from an artist/musician by the name of Rich Gold. He wanted to make a software version of the Pet Rock. He raised some money and had some early programming done before showing it to Activision. I saw the start he had made and was intrigued. Activision covered his expenses and spent several hundred thousand dollars more on the project, including almost a year of my time.

Rich's idea had a flaw. The beauty of the Pet Rock was that you could sell for something that cost nothing for ten dollars, but only if you surrounded it with a great story. *Little Computer People* (which was originally called Pet Person) was the opposite. Its cost was astronomical, so it had to be sold at a high price, and therefore it had to provide some real entertainment value.

I added interactivity, communicating both to and from your LCP. Our marketing department surrounded it with a compelling story about gremlins living in your computer, etc. I worked with the production department to figure out how to make every disk unique, each with its own special LCP. It was one of the most demanding software projects developed in the 1980s. We weren't sending a man to the moon or anything, but we created a convincing life form inside the Commodore 64.

RG: Why do you think the *Pitfall!* franchise has proven to be so popular over the years?

DC: First, the platform game genre was the most expandable style of game on the early consoles. A game designer could take the player to any world that he could envision (as long as the console could display that vision).

Second, even as the first of its genre, *Pitfall!* provided a lot of game play. Within the limits of a 4KB ROM, it was rare to have more than a few game screens. The technical trick I pioneered for that game – using an 8-bit polynomial counter to define each screen – provided for more than 200 screens of game play.

Finally, in gaming, each sequel has to be bigger and better than the last. So when you start with an original game that has so much more in it than other games, each sequel is forced to be that much better.

Pitfall! represented a big leap in gameplay. And each sequel had to be even better, so the whole body of work tended to stay ahead of the curve, keeping new audiences happy while remaining true to the spirit of the original.

RG: Looking back over your career, what game are you most proud of and why?

DC: I recently completed my 68th published game, and each one has something about it that I consider special. Sometimes the part that makes me proud is a unique game play feature, and sometimes it is an extremely esoteric programming technique that might take several pages of explanation. To list a few:

Most obscure display technique: Atari 2600 *Dragster* for the moving 48-bit dragster kernel.

Best overall use of the Atari 2600 hardware: *Grand Prix* for the size and colour of the car, and the edge treatment of the disappearing cars.

Image compression/decompression: C64 *Transformers*, for run-time rendering of two-dimensional textured parts for transformation animations.

Digitised speech player: C64 *Transformers* again, for custom disk driver pulling real-time audio data from the flip side of the disk.

Best computer opponent: *Candystand Billiards*, computing bank shots through the use of phantom pocket projections.

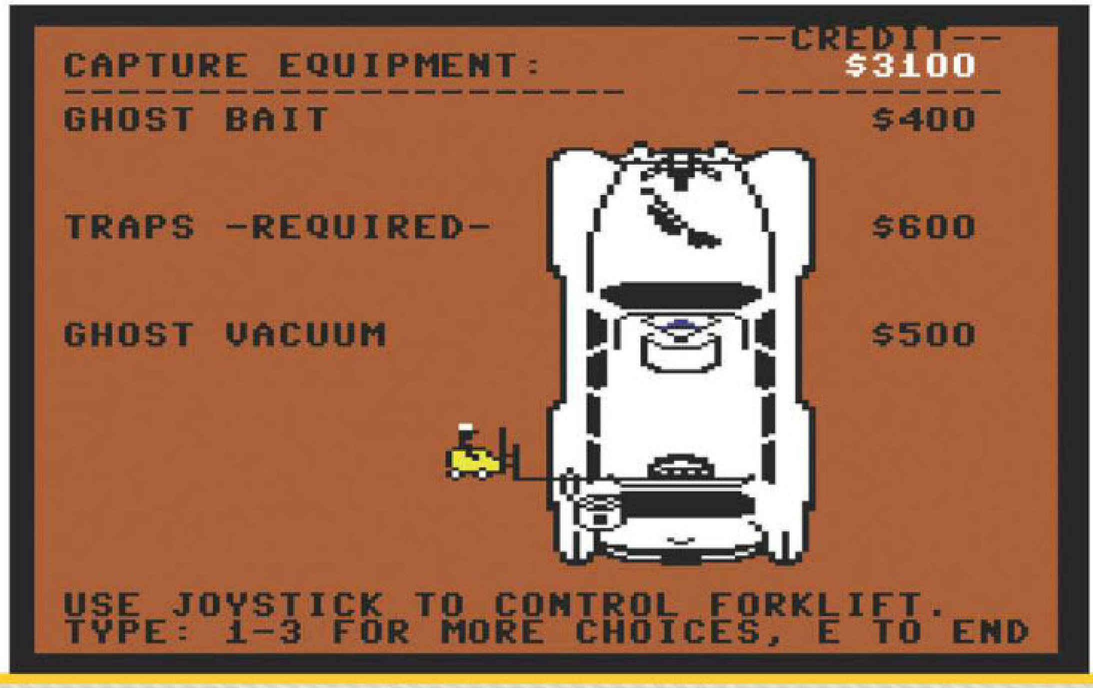
Screen data generation: *Pitfall!* 8-bit reversable polynomial counter.

RG: Are you still in touch with your former Activision co-founders?

DC: We will run into each other occasionally, particularly at classic gaming events. But despite the fact that we all still live in the Bay Area, it is a big place and we have spread out pretty far.

> “If my name is on a game, you can be sure that I wrote the majority of the code”

» [C64] Solving the problem of a short turnaround, this and the driving section of *Ghostbusters* were taken from a game Activision already had in production titled *Car Wars*.



* NUMBER CRUNCHING

David's first game was *Outlaw*, it was released in **1977**.

Pitfall! featured over **200** screens of gameplay.

Pitfall! quickly became one of the best-selling Atari 2600 games ever, with over **4** million copies of the game sold on the console alone.

David has recently completed his **68th** published game.

A Boy And His Blob featured **14** different flavoured jellybeans.

The concept behind *Pitfall!* took David around **10** minutes to think up, but it took him around **1,000** hours of programming to complete it.

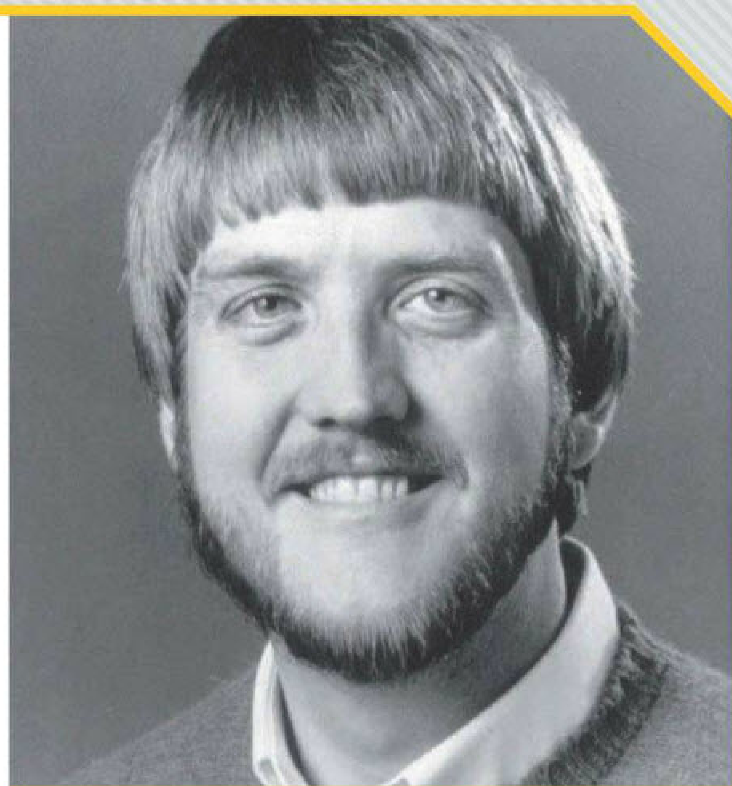
For most of David's adult life he played tennis with an national tennis rating of **5.0**. Very few reach this level, and the best rating you can achieve is **7.0**.

There are **7** games in the *Pitfall!* series, including an arcade version of *Pitfall II* developed by Sega. David has only worked on **3** *Pitfall!* titles.

RG: Tell us a little about the forming of Absolute Entertainment; why did it come about?

DC: When the videogame business crashed in 1983, Garry Kitchen and his co-workers in Activision's eastern design centre spun off to form Imagineering Inc. to do contract game development. They developed the *Simpsons* games for Acclaim, and became the largest North American developer for Nintendo NES games.

After a few years of success as developers they decided to also publish games, creating Absolute Entertainment as a brand. Garry contacted me to help to create and expand a line of games for Absolute, and before long I joined the company full time and he and I were working together again.



» Despite leaving Activision in 1986, David still occasionally sees the other co-founders.

RG: How much involvement did you have with the games? Were you still coding at the time?

DC: If my name is on a game, you can be sure that I wrote the majority of the code in the game. I find that programming is the best way to guarantee that a game will meet my standards. It is the program that breathes life into the characters and gameplay.

That often means learning a new game system or a new programming language, but that is the price I have to pay to keep control. I wouldn't have it any other way.



RG: Why did you decide to close the company in 1995? And how difficult a decision was that?

DC: The videogame business runs in cycles. I have been in the business for 33 years, and over that time there have been a number of boom and bust periods. Absolute ran into a bad patch in the business and couldn't sustain operations. The cost of ROM cartridges from Japan, coupled with heavy-handed retailers squeezed game publishers to the point that they could no longer make a profit. With ROM cartridge games, a publisher had to order goods far in advance. If you ordered too many you would be stuck with games you couldn't sell. If you ordered too few you would be giving up profits. It was painful to close down Absolute, but the same was happening to small publishers all around the world.

RG: And it was then that you set up Skyworks Technologies. Tell us a little about it…

DC: After Absolute, Garry and I decided that we would stay away from a business that had inventory risk. We decided to treat the internet as a game platform, and we began designing games that could be played in a browser. In 1995, people had not yet become comfortable buying anything online – if you remember, people were terrified that their credit card information would be stolen. So we had to come up with a new business model.

We created what would later be known as Advergaming. People weren't shopping online, but they were browsing, and companies were trying to get the attention of the casual internet user. There is no better way to do that than to give people free games to play. So we developed games and licensed them to companies to put on their web sites. It made for a three-way partnership: we got paid for making games, people got to play games for free and advertisers could draw people to their web sites. It worked a lot like the early days of commercial television with sponsored shows.

RG: Tell us about Candystand…

DC: The Candystand was Advergaming applied to a dedicated gaming site. The Lifesavers Candy Company spent a lot of money on brand promotion. For the Candystand we took a small percentage of their promotions budget and built a place to play games. Lifesavers brands would sponsor the games as if they were outside advertisers. Skyworks provided dozens of brand-new games that could only be played on the site, generating as many as 80 million game plays per month.

The Candystand delivered the lowest cost per brand impression of any internet advertising method. In other words it was the most successful form of internet advertising in that decade.

RG: And your collaboration with ESPN… how did that come about?

DC: A number of times over the years, Skyworks worked with ESPN to provide games and promotions.

Eventually ESPN decided to hand over the reins of its gaming site. We created a special ESPN game site similar to the Candystand. But in this case they sold advertising space to other companies. This was a moderately successful arrangement, only limited by the learning curve of their salespeople who could never quite understand the difference between sponsorship and advertising.

RG: You later moved into the iPhone market. What do you think of the iPhone as a gaming device?

DC: I love the iPhone as a gaming device. I love the iPad even more. For years we have waited for the cell phone that could play games, and the iPhone is the first real candidate. But you don't need me to tell you that – just compare the number of games available for the iPhone to any other handheld device.

RG: So why did you set up AppStar Games?

DC: Garry and I sold Skyworks in 2007, but we agreed to continue to work with the company for a period of time. In October of 2009 we parted company.

I have been designing games since 1977, so it is only natural that I will continue to do so. At AppStar Games we plan to publish games for the iPhone, iPad and various other handheld devices.

RG: Are you happiest managing companies or simply programming?

DC: I still program games every day. The only distinction I might make is that I am not just a game programmer. We use the term 'game designer' to describe a programmer who also figures out how to put the fun into the game. That is what I do.

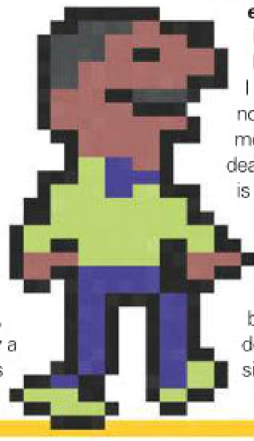
I rely on other experts – artists, animators, composers, sound effects specialists etc, but what I do is to take the work of these others and breathe life into them. I create a complete world in which they have an existence of their own, and it is this world into which the player is allowed a glimpse.

RG: Aside from your excellent Atari Magic apps, what else can we look forward to?

DC: I developed the Atari Magic apps just to document some of the more obscure tricks that were needed to make a game for the Atari 2600. It wasn't much more than a labour of love. I haven't had time to do more in that series, however, because we got busy developing *The Iron Horse* for the iPad and iPhone.

The *Iron Horse* is a very simple game – by design. At a recent conference I spoke to a number of contemporary game designers. One told me that "I can design a giant story game with hundreds of thing to do and see. But it is really hard to make a simple game that is just fun to play." Figuring out something that is simple to do and yet still fun is what Garry and I do best. That is embodied in *The Iron Horse*. At first blush you will think of it as too simple to be interesting. But a few minutes into the game you might be surprised.

As one reviewer put it, "When I sit down to play a game or two, it becomes nine or ten. It's just very easy to pick up and play, very intuitive. I never once played it for more than five to ten minutes at a time, but it's always one of the first games I'd play when sitting down with the iPad with intent to do something else."



RG: Where do you see the games industry in ten years?

DC: Ten years is too far for my crystal ball to see. But the biggest thing in the past few years is direct-to-consumer sales. It is so easy to buy a game from the App Store that it is easy to forget that you used to drive to Toys R Us or the game specialty shop in the mall. Now you can own a game in seconds.

But as the number of game offerings go from hundreds of thousands to millions, new and better ways to identify good games will have to be created. I am anxious to see how that question will be answered.

RG: You've been working with Garry Kitchen for many years now. What's he like?

DC: Garry is a rare type – he's an entrepreneur businessman who can still roll up his sleeves after all of these years and write game code. Like me he realises that the best way to achieve a vision is to program the computer yourself.

He is also the most honest and responsible person I have met in business. If you sit down to make a deal with Garry, his goal is to make sure that both parties end up with a deal that makes sense for their respective businesses. I couldn't have a better business partner.

RG: How do you find the iPhone to program on compared to earlier systems?

DC: All game systems have their little quirks, and I suppose the iPhone is no different. But one of the most important issues when dealing with a game console is performance. How fast will my game operate on the device? The iPhone performance is great. And more importantly, because the iPhone doesn't run multiple apps simultaneously, a game designer can count on the same performance for every player, every time. When you hear complaints that the iPhone doesn't run multiple apps, consider what will happen on those devices with multiple programs vying for one CPU.

> "[Atari] made a mistake – one that is repeated over and over in every business"

RG: What do you think of the current generation of videogames?

DC: There are some great console games on the market. There are games that required dozens of talented people working many years to complete. Those games are not my cup of tea, either making or playing, but as a player you should enjoy them. A lot of things have to come together to make them possible, and unless you support them with your purchasing dollars you won't get to see the next generation of that game.

RG: Do you own any current-generation consoles and, if so, what are your favourites?

DC: Unfortunately I don't have much time to play games. I suppose that seems funny since playing games led to my career in making games. But making a game takes so many hundreds of hours that there just doesn't seem to be much time.

RG: How has the industry changed since you started, and do you think it has changed for the better?

DC: As I have said, the biggest change in the industry has been direct-to-consumer sales of games. Large studio games will still be funded by one of the larger publishers like Activision, but direct sales make it possible for many smaller developers to create games and get them to market.

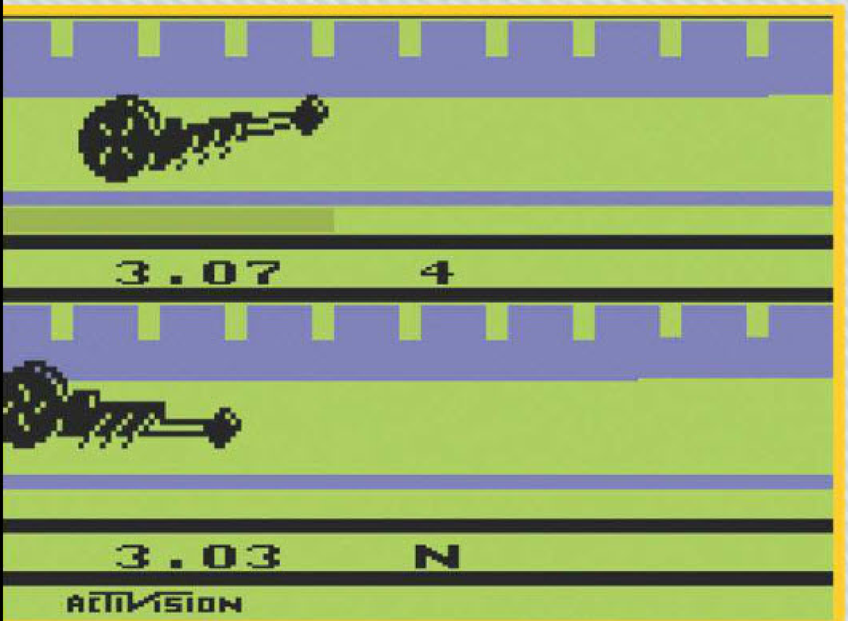
This can be a good thing for some, but it actually causes other problems. One of the biggest problems is the lower price points for games. A teenager making a game in his bedroom might be happy to make a few hundred dollars on a game, so he has no problem offering the game at 99 cents (I have read of guys who were perfectly happy that they were able to buy a new Mac on the proceeds of a game). But professional game studios have to pay half-a-dozen professionals, pay the rent, utilities and health insurance for two dozen employees. That is hard to do if the expectation is that a game is only worth 99 cents.

When I spend thousands of hours making a game, including tens of thousands of dollars of art and sound development, I still have to sell the game for only a dollar or two. Thanks to thousands of teenagers making games at home, that is what the market has come to expect. Once you play a game made by a professional design team, you can certainly see the difference. But until you do, it is hard to get noticed.

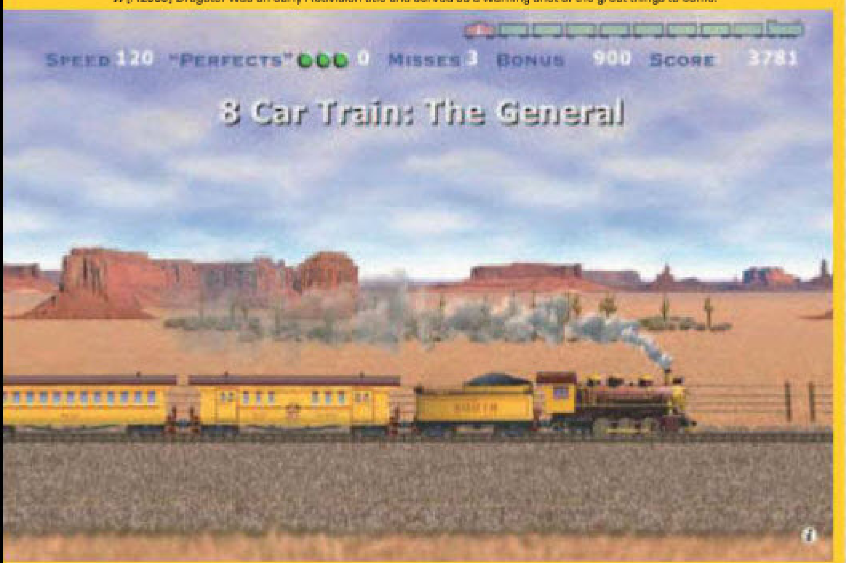
RG: Before we go, we have to ask: how good are you at tennis?

DC: For most of my adult life I played tennis with an NTRP (National Tennis Rating Program) rating of 5.0 (this is a standardized scale from 1.0 for beginner to 7.0 for Roger Federer). A very small percentage of the millions of tennis players achieve a rating of 5.0 or better. Tennis has been a lifelong passion, and it helped to make *Amazing Tennis* into a realistic simulation of the game (*Amazing Tennis* was so named for the amazing 3D parallax display never before seen on the SNES).

I still play tennis in tournament and league competition, but due to age and injuries I no longer play at the 5.0 level.



» [A2600] *Dragster* was an early Activision title and served as a warning shot of the great things to come.



» [iPad] David's latest game is *Iron Horse*, an addictive game designed for the iPad.



» [SNES] David loves tennis, and *Amazing Tennis* is a great testament to his passion for the sport.

YOU ASK THE QUESTIONS

We were inundated with questions for David Crane. He managed to answer a good selection of them…

Who did that voice sample in the *Ghostbusters* game?
That is a good question – and one that I don't clearly remember. I had written an audio digitiser and driver for the C64. The actual voice sample would have come from Russell Lieblich, who sadly passed away in 2005. Russell provided music and sound effects for many of Activision's games in that period of time. I'm sure he would have first tried to use the voices from the movie theme song. But it is possible that he was unable to isolate that sample from the underlying theme music, which would have made the sample unusable. If that happened he would have probably set up a microphone and borrowed people in the company. But I don't know for certain, and I am sorry to say that we can no longer ask him.

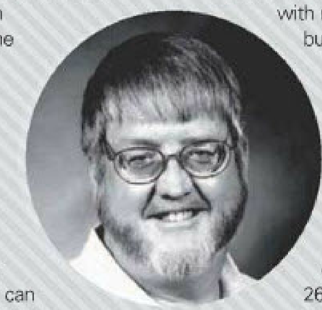
Have you ever been tempted to make *Pitfall 3*?
Pitfall (the license) remained the property of Activision after I left in 1987. So I never thought much about resurrecting Pitfall Harry after my departure. But I do like side-view adventures, and I have done a number of games in the genre since then as online games.

Do you still have the personalised license plate "Pitfall"? If so, how much to buy it from you?
I still use that license plate since I put it on my car in 1982. I had an old 280Z that was due to be replaced, and I was on vacation thinking about a new car and what custom license plate I might like. There was no way to get "Activision" to look good with only seven letters, and that was a disappointment. When it struck me that Pitfall would fit perfectly, I cut my vacation short to get to the DMV.

As for buying it, I would gladly consider any seven-figure offer.

Have you ever finished a project and immediately thought of a dozen ways to improve it?
Every game project ends because it hits a limit, and that limit is rarely a lack of ideas. In the early days we ran up against the ROM limit before any other. As technology improved a project ran out of time or budget before running out of memory. But in either case the key to videogame design is to get as much playability into a game within the available limits.

There has never been a game that couldn't have been made better with more time, more budget or more memory.



What non-Activision Atari 2600 game impressed you the most?
While still at Atari, Rob Fulop did a great job on the 2600 version of *Missile Command*. Making a 2600 version of an established arcade game is one of the toughest challenges in our field, and that was very well done.

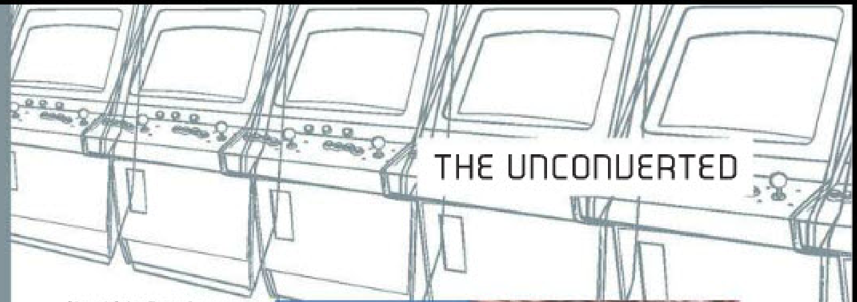
A second choice would also be a Rob Fulop game: *Demon Attack*. There wasn't a lot to the game graphically, but that could be said of most 2600 games. Rob tweaked the game very well, keeping the game compelling as it ramped up over time.

What was/is your biggest programming regret and why?
Looking back I wish that *Little Computer People* had been a commercial success. While it was a huge critical success, there was so much programming in the game that it cost more to produce than it made at retail. We had dozens of ideas for follow-up products, but if those ideas were going to lose money the company couldn't afford to produce them. I regret that we were unable to follow those ideas to see what might have become of the first large-scale simulated life form on a computer.

The Unconverted



Computer and console ports brought classic coin-ops into the homes of millions. Yet for every celebrated conversion like R-Type, dozens of classic arcade games languish in obscurity. Here, **Ryan Lambie** takes a look at 13 of the most unjustly overlooked games never to leave the arcade







Mustache Boy

Seibu Kaihatsu, 1987

■ No, *Mustache Boy*'s title isn't some kind of mistranslation – this game really does star a boy with bushy facial hair, though who the unfortunate lad is and how he acquired his moustache is never explained.

Programmed by Seibu Kaihatsu three years before its superb shooter *Raiden*, *Mustache Boy* is essentially a top-down variation on *Q*Bert*. You control the eponymous hero, whose task is to step on every square on each level while avoiding the monsters that patrol them. Like *Pac-Man*'s ghosts, each monster has its own method of attack – some will roam the stage in a haze, while others will chase you relentlessly should you cross their line of sight. To redress the balance, there are a number of power-ups to collect. These range from explosives that take out any nasties within a one-square radius, to a giant fist that knocks enemies flat.

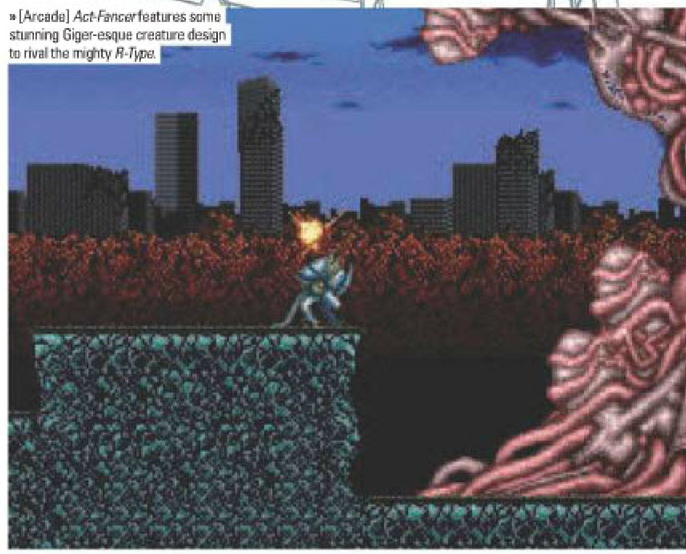
Mustache Boy's graphics are best described as functional – it's doubtful that they would have looked particularly impressive even in 1987, with characters only 16 pixels high and levels composed of little more than a few brightly coloured squares.

But while it's easy to smirk at *Mustache Boy*'s simplistic gameplay and dismiss it as just another Eighties retro curiosity, its steadily rising difficulty level and pixel-precise controls – which allow for death-defying jumps over chasms and avoiding marauding enemies with ease – make for an insidiously addictive experience. Later stages add to its appeal, becoming increasingly large and complex while adding extra challenges, including more enemies, bottomless pits and conveyor-belt-like tiles.

With a title – and central character – as quirky as *Mustache Boy* is, it's unsurprising that Seibu's arcade gem never saw much business outside Japan. But look beyond the curious personal grooming, and you'll discover a minor arcade classic.



» [Arcade] *Mustache Boy*'s simplistic graphics belie a challenging and surprisingly addictive game.



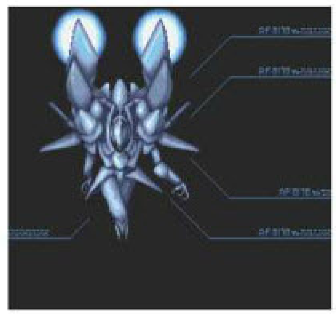
» [Arcade] *Act-Fancer* features some stunning Giger-esque creature design to rival the mighty *R-Type*.

Act-Fancer: Cybernetick Hyper Weapon

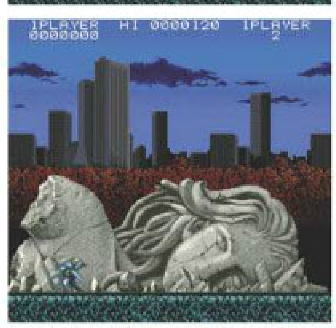
Data East, 1989

■ *Act-Fancer* is a side-scrolling run-and gun platformer, which, like Data East's 1987 shooter *Super Real Darwin*, features the interesting gimmick of a steadily evolving protagonist. With each glowing pill, your initially diminutive hero mutates into a bigger life form with increasingly destructive firepower; what begins as a tiny, chicken-like specimen eventually morphs into an upright, winged humanoid capable of multi-directional fire.

The look of *Act-Fancer*, while typical of many post-Eighties sci-fi shooters, is nevertheless highly distinctive. Handled by Torba, the same character designer responsible for other Data East hits such as *Karnov* and *Dragon Ninja*, *Act-Fancer*'s fleshy, HR Giger-influenced monsters and strange, stylised backgrounds are beautifully realised – the opening level, with its gigantic, demolished Greek statues, is particularly memorable.







Gorgeous visuals aside, *Act-Fancer* is one seriously tough game. Your character devolves if you don't keep collecting power-ups, and in his initial state he's perilously weak – take a hit and you're sent back to the beginning of the level. This against-the-clock tension is strangely offset by the need to pick slowly through each stage; rushing ahead always spells certain death. Nor is it possible to pay your way through the game by constantly throwing in credits – without a good memory and patience, it's unlikely that you'll even make it past the first boss. But for those who do persevere, *Act-Fancer* offers a wealth of alien horrors to discover, from level 3's army of insects to the genuinely nightmarish biomechanical creatures on level 5.

It's a sad fact that, despite *Your Sinclair*'s seal of approval – the magazine's Matt Bielby gave it a respectable 7 out of 10 convertability rating – *Act-Fancer* has all but disappeared into the mists of arcade history.

The Unconverted



» [Arcade] *Prehistoric Isle*'s multi-directional scrolling adds variety and a creeping sense of claustrophobia.



Prehistoric Isle In 1930

SNK, 1989

■ …or Conan Doyle's *The Lost World* seen through the filter of an Eighties horizontal shoot-'em-up. *Prehistoric Isle*'s 'investigate the Bermuda Triangle' opening story is but a flimsy excuse for an exotic, dinosaur-themed blaster that blends a Fifties B-movie's disregard for historical accuracy with no-frills late Eighties blasting.

Taking control of a flimsy red biplane, you fly over a leafy island populated by the cast of a Ray Harryhausen film, including prehistoric lizards, giant insects and kamikaze cavemen who will cling to your wings with all their strength. Power-ups are collected from floating eggs, and in a neat little riff on the *R-Type* weapon system, a collectable turret can be rotated around your plane to protect it from above, below or behind. This multi-directional firepower comes in handy, because *Prehistoric Isle* takes a particularly sadistic delight in abruptly changing the direction of its scrolling, with sudden dives into caves and waterfalls, or steep climbs up the sides of cliffs. The extreme agility of the isle's denizens – who fly and leap from all angles, intent on mangling your plane in their jaws – plus the scenery's cluttered outcroppings of fauna and rock, make this a particularly claustrophobic shooter, requiring careful memorisation of enemy patterns and stage layouts.

Prehistoric Isle's graphics, while not in the league of, say, *R-Type*, are distinctive and packed with charm, with dinosaur designs ranging from vaguely plausible – pterodactyls and brontosaurus, for example – to the completely insane, like level 3's floating whale beast thing.

In an era when shooters as dull as *P-47: The Phantom Fighter* were widely ported, it makes little sense why *Prehistoric Isle* wasn't also given the conversion treatment.

Carrier Air Wing

Capcom, 1990



» [Arcade] Improved Capcom hardware makes *Carrier Air Wing* even more visually impressive than its predecessor, *UN Squadron*.

■ When Capcom created *UN Squadron*, a side-scrolling shooter based on Kaoru Shintani's manga *Area 88*, the result was a classic. The anti-war message of the comic book may have been drowned out by the roar of gunfire and jet engines, but the game's blend of realistic aircraft and absurdly over-the-top weaponry places it high on the list of the Eighties' best shoot-'em-ups. Ported to home computers and, most successfully, the Super Nintendo, *UN Squadron*'s widespread popularity made a sequel inevitable.

That sequel arrived in 1990. *Carrier Air Wing* (*US Navy* in Japan) sadly lacks Shintani's distinctive designs, but the shooting action is strikingly similar. There's still the familiar choice of three aircraft and the same huge mechanised bosses and rapid, side-scrolling shooting action that favours reflexes over memorisation.

There is one subtle change, however: your fighter's energy bar now depletes even when you aren't hit, requiring constant topping up from the orbs dropped by vanquished enemies. This adds an extra note of tension to an already frantic game, and, if anything, *Carrier Air Wing*'s action is far more intense than *UN Squadron*, with fast-paced aerial dogfights among skyscrapers and lethal encounters in caves.

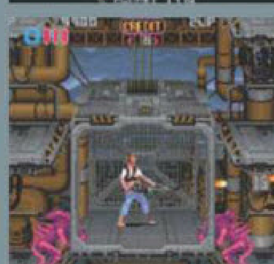
And while *Carrier Air Wing*'s core gameplay isn't spectacularly different from its predecessor, it's nevertheless full of neat graphical touches – cars flicked up like toys in the wake of your cannon, the ripple of water as you fly near the sea – and in many ways it's the superior game: enemy attack patterns are more varied, while area bosses and explosions are bigger and meatier.

Given the sheer number of ports that *UN Squadron* enjoyed, it's a mystery why this excellent shooter never received the attention of its illustrious forebear.

Aliens

Konami, 1990





■ **RELEASED IN 1986,** *Aliens* was one of the decade's greatest sci-fi movies, and its success made an adaptation inevitable. Unusually, *Aliens* was treated to three tie-in games for home computers: Activision and Software Studios both released titles called *Aliens: The Computer Game* in 1987. Shortly after, Square created a Japan-only *Aliens* game for the MSX.

In 1990, Konami released an *Aliens* tie-in of its own, which took the form of a side-scrolling shooter. Unfortunately, it appears that Konami's programmers didn't bother to watch the movie before getting started; the game presents a blonde Sigourney Weaver battling through an army of creatures that have nothing to do with the film, including zombies, floating heads and pink aliens. Despite this lack of cinematic attention, *Aliens* remains a great scrolling blaster that really deserved a home conversion



» [Arcade] Once riled, dinosaurs will change colour and indiscriminately attack enemy and player alike.



Cadillacs And Dinosaurs

Capcom, 1992

Capcom may be better known these days for its seemingly endless *Resident Evil* and *Street Fighter* spin-offs and sequels, but back in the era when scrolling beat-'em-ups ruled the arcades, it produced masterpieces like *Final Fight* and, less famously, *Cadillacs And Dinosaurs*.

Based on the US comic of the same name, *Cadillacs And Dinosaurs* is a three-player brawler with a pace and styling not unlike Sega's console hit *Streets Of Rage*. It features the usual roster of characters to choose from – three muscle-bound guys, and one buxom female – and eight levels of marauding thugs to bludgeon senseless. As the name suggests, its dinosaurs are its big gimmick: unapologetically huge beasts that attack both player and enemy with savage abandon.

Dinosaurs aside, *Cadillacs* is a fairly predictable Nineties beat-'em-up. There are the energy-sapping super moves to help you out in emergencies, the typical enemy names – Vice T, for example – and cringeworthy dialogue, plus the usual obsessions with bondage gear and hugely overweight enemies.

There's an impressive armoury, from basic blunt instruments to grin-inducing automatic firearms. The missile launcher is the best of the lot, capable of reducing enemies to a shower of eyeballs and gore. It's fun, and certainly polished, but isn't a patch on Capcom's superior D&D scrolling fighters.

Unfortunately, the gaming world was in the grip of *Street Fighter II* by the time *Cadillacs* arrived, and it's likely that by 1992 the scrolling fighter was considered a little long in the tooth. Nevertheless, *Cadillacs And Dinosaurs* is worth rediscovering, not least for its gargantuan dinosaur sprites, impressive cache of weapons and relentless action.

Out Zone

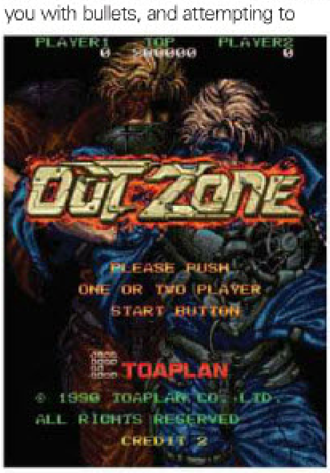
Toaplan, 1990

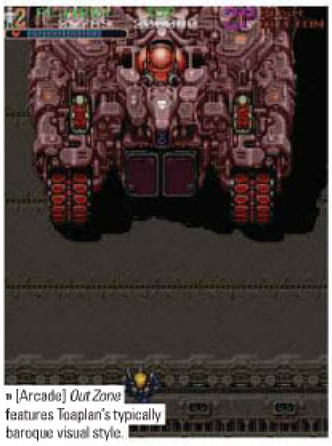
Out Zone is a top-down shooter in the style of *Commando* or *Mercs*, and marks a rare departure from the pure, air-based shooters that Toaplan was so famous for.

You control a cyborg soldier who, like *Commando*'s Super Joe, is dropped behind enemy lines to single-handedly take on an entire army.

Toaplan's distinctive visual stylings and music are immediately in evidence, with alien and tank designs to match its best works such as *Tatsujin* or *Fire Shark*. The way the terrain steadily transforms from lush jungle to a creepily alien stronghold as you progress is a long-standing Toaplan trademark, but its familiarity does little to dim the quality of design present here.

Like most Toaplan games, *Out Zone* is also extremely difficult. It displays a frustrating tendency to place you in tight spaces and bombard you with bullets, and attempting to





» [Arcade] *Out Zone* features Toaplan's typically baroque visual style.

defend yourself on narrow catwalks can become frustrating at times. Nevertheless, there are some neat ideas here, including an unusual power-up system where you can choose between fixed or multi-directional fire. Like *Carrier Air Wing*, your progress is made even more tricky by the inclusion of a steadily depleting energy bar, which must be constantly replenished by collecting energy boosts if you want to continue.

No Toaplan blaster would be complete without a massive area boss at the end of each stage, and *Out Zone* is no exception; level 3's laser-wielding monstrosity, which cuts away great chunks of the scenery, is an especially challenging example. The end of each level says, 'You made it!', as though even the game can't quite believe you've survived.

Out Zone is arguably one of Toaplan's greatest shooters, and why it was never ported to home systems is one of retro gaming's great enigmas.



» [Arcade] *Air Gallet* makes clever use of layered sprites to create a genuine sense of depth.

Air Gallet

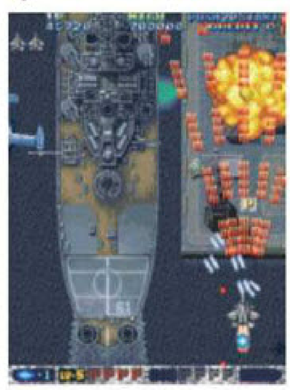
Gazelle, 1993

2D shooters have always borrowed ideas off one another, and Gazelle's top-down blaster is no exception: at first glance, *Air Gallet*'s red jet fighter and power-up system bear an uncanny resemblance to Seibu Kaihatsu's 1990 shooter, *Raiden*.

There are some imaginative level designs amid all the familiarity, however; the first level's conclusion, which takes place in the crimson wake of a launching space shuttle, is surprising and impressively staged. Backgrounds are beautifully detailed to an almost insane degree, with bullet trains hurtling back and forth beneath you, and there are even some successful attempts at creating a sense of depth, with level 2 featuring a huge radio tower that looms up from the ground – it's a simple sprite-layering effect, but an extremely effective one.

Air Gallet also happens to be one of the most talkative games of the early Nineties. "*Air Gallet* blows your socks off!" the game's voiceover boldy states, and from then on almost every downed enemy, collected power-up and achievement is commented on, raved about or announced from a tannoy.

Power-ups are both gloriously destructive and glorious to behold, and the choice of two types of smart bomb – one focused and powerful, the other screen-wide yet weak – adds a hint of strategy amid the wanton destruction.



It's also difficult to remember a game more generous with its power-ups; the death of a larger enemy or mid-level boss results in a pinata-like shower of them. This generosity is fortunate, because *Air Gallet* assaults the player with great curtains of bullets from the first stage. Indeed, the difficulty level remains virtually horizontal from beginning to end, with the last area only slightly tougher to beat than the first. Nevertheless, *Air Gallet* is an intense, excellently crafted shooter.

The Unconverted

Bomb Jack Twin

NMK, 1993

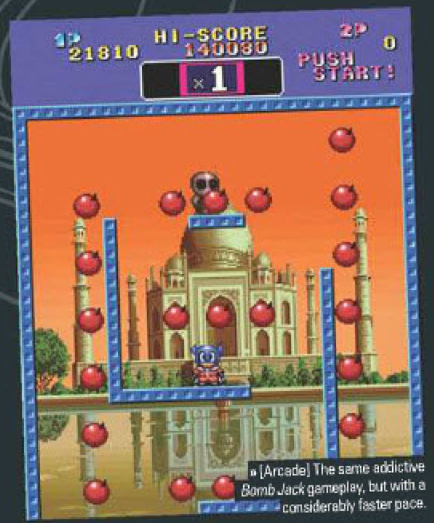
■ Way back in the early Eighties, before Tecmo became synonymous with the swirling violence and bouncing bosoms of Tomonobu Itagaki, it created the simple yet addictive classic *Bomb Jack* under its original studio name of Tehkan.

While *Bomb Jack Twin*'s programming duties were handled by little-known studio NMK rather than Tecmo, the second sequel nevertheless takes the same basic gameplay from its 1984 predecessor. Like the original, *Twin*'s action plays out on single static screens, and remains a pleasingly demented fusion of platform game and *Pac-Man*, with the aim to collect all the bombs on each screen while avoiding the enemies guarding them. Extra points are earned by collecting them in a specific sequence, while grabbing tokens will immobilise enemies for a brief period. Clear the screen of bombs, and it's on to the next.

What's most striking about *Twin* is its blinding speed – this is *Bomb Jack* on amphetamines, with lightning-fast enemies that patrol every level's platforms and skies; for the unwary, it's possible to lose the game within seconds. But despite a difficulty level that seems intent on emptying your pocket of coins as quickly as possible, the addictive qualities of *Twin*'s predecessors survive intact.

A simultaneous two-player co-op mode – a feature that was sadly missing from the first game – adds to the fun, while extra bonus rounds and updated animation adds greater depth and humour to its tiny caped heroes.

It's unfortunate that *Bomb Jack Twin* never made the impact of its forebears, which appeared on the NES and 8-bit computers in the Eighties. It's possible that, by 1993, *Twin*'s retro gameplay seemed a little too simplistic to find a console audience, but, for fans of the first *Bomb Jack*, *Twin* is a more than worthy update of an incendiary Eighties classic.



» [Arcade] The same addictive *Bomb Jack* gameplay, but with a considerably faster pace.

Violent Storm

Konami, 1993

■ A scrolling beat-'em-up in the grand tradition of *Double Dragon* and *Final Fight*, *Violent Storm* was one of the few Konami fighters of its era not based on a licence. In terms of gameplay, it treads familiar territory, with three tough guys to choose from and a scrolling battlefield of goons to kick your way through.

A catchy slice of J-rock provides the soundtrack, and the whole game looks and sounds like a Saturday morning cartoon, with colourful characters and plenty of floppy fringes. The predictable beat-'em-up caricatures are trotted out – no brawler would be complete without a miniskirt-wearing bondage chick, after all – but this is easily forgivable thanks to its anarchic sense of humour. Where most beat-'em-ups attempted to create a gritty urban atmosphere inspired by movies such as *The Warriors*, Konami took a more slapstick approach: few other games draw attention to their enemies' dim AI as *Violent Storm* does, with these idiots constantly blowing themselves up or falling off speeding trains. The weapons provide similar moments of weirdness, including one instance where you can pulverise enemies with a rugby ball made from a roaming piglet.

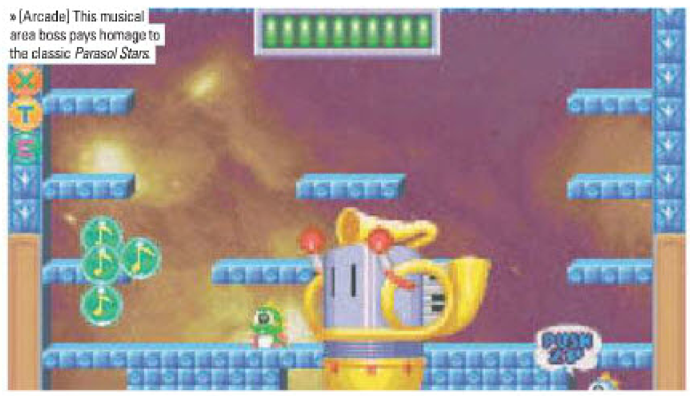


In fact, *Violent Storm* rivals *Metal Slug* for moments of sheer strangeness, and, by the stage 5 boss – a statue that transforms into a body builder wearing a thong – things are becoming very weird indeed.

Admittedly, the gameplay can become repetitive – you're essentially fighting the same dozen sprites over and over again – but this is by no means an atypical flaw in the era's fighting games, and *Violent Storm* ranks among Konami's best offerings.



» [Arcade] Level 5's muscle-bound boss is a character straight out of *Cho Aniki*.



» [Arcade] This musical area boss pays homage to the classic *Parasol Stars*.

Bubble Memories: The Story Of Bubble Bobble 3

Taito, 1995

■ Taito returns to the classic and highly addictive static-screen gameplay of the original *Bubble Bobble* with *Bubble Memories*, which takes series protagonists Bub and Bob to their original dinosaur guises. And thanks to the superior processing power of the mid-Nineties, the gameplay is more manic than ever; the reptilian heroes can move more quickly and blow more bubbles at a time, and the game as a whole is much faster paced than the original.

There's even the vaguest whiff of *R-Type* about this outing, with an extended press of the fire button creating a huge super bubble that can capture larger foes – or several smaller ones – for extra points.

Bubble Memories plays like a loving homage to all the *Bubble Bobble* games that came before it, with classic enemies from as far back as 1983's *Chack'n Pop* making a welcome reappearance. There are also references to *Rainbow Islands* with that game's treasure chests and power-ups; musical notes and demented instruments from *Parasol Stars*; plus big end-of-level bosses that have long been a series feature.

Taito pulled off a tricky balancing act with *Bubble Memories*; it remains faithful to the spirit of the original while introducing new, engaging ideas of its own. The two-player co-op gameplay is as addictive as ever, while the increased variety of enemies and obstacles provide unexpected challenges to long-standing Taito fans.

Despite the mystifying inclusion of some frankly ugly digitised backdrops, and some infuriating credit-gobbling later stages – which the original *Bubble Bobble*, classic though it is, also contains – *Bubble Memories* is a more than worthy entry in the *Bobble* canon, and joins *Parasol Stars* as one of the series' most sorely neglected instalments.



Puzzle Uo Poko

Cave, 1998

A rare vaunt into puzzle game territory for Cave, a developer more commonly associated with bullet hell shoot-'em-ups, *Uo Poko* is a cross between the colour-match gameplay of *Puzzle Bobble* and the physics of pinball.

Operated with the press of a single button, you must launch like-coloured spheres into the play area. The system works like the spring-loaded plunger on a pinball machine – the longer the button is held, the further the ball will go. But despite this lack of direct aiming, it's surprising just how intuitive *Uo Poko*'s control system is, and how little time it takes to learn.

Otherwise, *Uo Poko* plays like a standard action puzzler, with increasingly intricate patterns of coloured spheres to match and clear, and a gradually tightening time limit that sees the play area decrease in size each time you make a mistake. There are bonuses rewarded for chain reactions, and later stages introduce new types of sphere; some must be shattered, while others are indestructible.

There's a strange nautical theme – it has something to do with cats exploring the ocean in a submarine – which adds plenty of whimsical charm but does little to enhance the gameplay.

You could argue that *Uo Poko* feels a little too familiar, and borrows a few too many ideas from games like *Columns* and *Puzzle Bobble*, but *Uo Poko*'s real masterstroke lies in its excellent two-player co-op mode. This presents players with an entirely new set of levels where careful co-ordination and communication is required to complete each stage.

Ultimately, *Uo Poko* is a charming, addictive puzzler, with one of the most engaging two-player modes in any game of its type – and it's a game crying out for a conversion to the DS or iPhone.



» [Arcade] Like the best puzzle games, *Uo Poko*'s control system is easy to master.



» [Arcade] While *Battle Garegga* is comparatively well-known, *Armed Police Batrider* remains inexplicably obscure.

Armed Police Batrider

Eighting, 1998

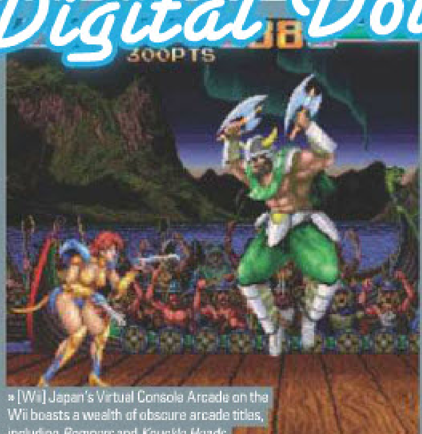
When legendary shoot-'em-up developer Toaplan closed in 1994, its design and programming talent dispersed and formed new studios of their own. As the Nineties drew to a close, these studios – Cave, Gazelle, Takumi and Eighting (also known as Raizing) – began what appeared to be a kind of shoot-'em-up arms race, with each team creating a vertically scrolling blaster more tough and outlandish than the last.

Eighting's *Armed Police Batrider* is one of the studio's masterpieces of barely contained chaos. A vertical shooter firmly rooted in the danmaku (or 'bullet curtain') subgenre, *Batrider* could be seen as the studio's answer to Cave's equally mental *DoDonPachi*, released the year before. Like *DoDonPachi*, *Batrider* pushes the player's skills and reaction times to the limit, and delights in absurdly powerful weaponry, gigantic area bosses and gleeful amounts of public property damage.

It's clear from the first few seconds of play that *Batrider* isn't for the uninitiated, and it's possible that the sheer number of bullets – both friendly and otherwise – as well as enemy formations and explosions that occur at any given moment, will induce a kind of sensory overload in all but the most dedicated fans. Those steeped in Toaplan's output, meanwhile, will recognise the numerous references and ship cameos that constantly pop up, and in this regard *Batrider* is shoot-'em-up gold.

There's also a warped sense of humour evident in the array of characters to choose from, which range from jet bikes to a man on a flying carpet. With its spectacular music, visuals and a level of difficulty to rival every shooter of the period, it's unfortunate that *Batrider* didn't receive the conversions that *DoDonPachi* or *Battle Garegga* enjoyed, for this ranks as one of Eighting's best, and deserves to be rediscovered.

Digital Downloads



» [Wii] Japan's Virtual Console Arcade on the Wii boasts a wealth of obscure arcade titles, including *Rompers* and *Knuckle Heads*.

THE 13 GAMES featured here represent only a small fraction of the hundreds of arcade machines that lie forgotten. In some cases, even the studios that made them appear to have erased their existence from memory – Taito failed to include the excellent *Bubble Memories* on either of its *Taito Legends* retro compilations; neither *Carrier Air Wing* nor *Cadillacs And Dinosaurs* were included on any of Capcom's collections; and Data East appears to have forgotten all about the unfairly neglected *Act-Fancer* for its recently announced *Arcade Classics*.

But with the advent of digital download services such as the Wii's Virtual Console, there is at least a small chance that some of these neglected games could make an unexpected comeback. In Japan, Namco has made a number of obscure titles from its back catalogue available for the Wii's download service, including the farm-themed maze game *Rompers* and one-on-one fighter *Knuckle Heads*.

Sadly, the system's European counterpart only hosts a fraction of the games available in Japan. But who knows? Forgotten classics like *Armed Police Batrider* or *Prehistoric Isle* could be coming soon.



COLECO VISION





From the same company that would inflict the Cabbage Patch Kids upon the world, the ColecoVision entered an industry on the verge of collapse. **Damien McFerran** speaks to the man behind the machine that could have ruled the world

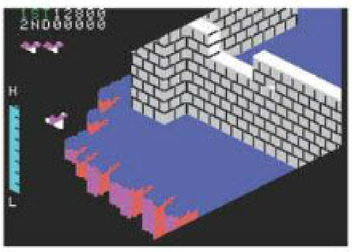
There are some striking similarities between the ColecoVision and Sony's all-conquering PlayStation. Both machines were released by companies that nominally operated outside the videogame industry – Coleco began life as Connecticut Leather Company before moving into children's toys, and Sony was, and still is, a purveyor of consumer electronics, movies and music. Both platforms were also more powerful than their closest competitors and relied heavily on third-party licences, with Coleco signing up some of the best arcade titles of the era, while Sony secured victory with the assistance of talented studios such as Namco, Square and Konami. However, it's there that the similarity ends: while the PlayStation went on to dominate the 32-bit era, the ColecoVision's potential was stymied by the videogame crash of the Eighties – a cataclysmic event brought on by market leader Atari's poor business strategy.

The ColecoVision hardware was the brainchild of Eric Bromley, a talented designer and engineer who had previously headed up R&D divisions within various coin-op firms, the most notable of which was Midway. He was in between jobs when Coleco's Mel Gershman asked him to come in for an interview. "He hired me within 15 minutes of my arrival," beams Bromley today. Coleco's output at that time was mostly electronic toys and play equipment, the former being something that caught Bromley's eye. "Coleco made one of my all-time favourite games: Rod Hockey," he explains. "They also made swimming pools, Holly Hobbie ovens, girl's playhouses, and various types of snow-riding items." However, with videogame sales booming and millions of dollars up for grabs, Coleco was looking to enter the market with its own home machine; the company knew the potential because it had already tentatively dipped a toe in the water during the Seventies with a range of handhelds and a simplistic TV game.

"The game with which we had our initial success was Telstar, which was promoted in 1976 as the first arcade home videogame under $100," says Bromley. The talented designer had an even grander vision in mind, but bringing it to fruition was difficult. "Coleco CEO Arnold Greenberg and I desperately wanted to make an arcade-quality, cartridge-programmable videogame," states Bromley. "I had started to do the preliminary design and costing for the ColecoVision three years – maybe even more – before its debut in 1982, but it was always shot down as too costly. Marketing a product at a magical retail price point was the key to everything Coleco produced; it was their mantra. Our team had developed a design around a Texas Instruments video chip and a sound chip from General Instruments, but it was RAM-intensive and therefore way above the cost limits." With the profit margin being the deciding factor, the situation remained static until 1981. "I picked up a copy of the *Wall Street Journal* and saw an article about how the cost of RAM had declined," explains Bromley. "I retrieved the latest cost analysis and substituted the new pricing. It came very close to the target price point. I ran to inform Arnold Greenberg and burst into his office without even asking his secretary; before he could react I showed him the new figures. Ten minutes later we were working on a new project with the working name 'ColecoVision'. We were going to find a really good name for it as soon as we could show something to our sales and marketing people." They never came up with a new moniker, and the working title stuck.

With the financial resources in place to make his dream a reality, Bromley set about engineering what would be considered the most powerful gaming machine of the period. "The key to the ColecoVision was that this was the first home videogame that could display





» By picking up cutting-edge titles such as *Zaxxon*, Coleco was making a bold statement about the ColecoVision.

and update the entire screen at almost arcade resolution, which in 1982 was 256x192 pixels, and at the same time move objects around at a speed that would test the hand-eye co-ordination of teenagers," he comments. "In order to do that, we needed to employ an array of RAM chips, which could create a graphic matrix, which was then sent out to the TV. Texas Instruments' chip was extremely clever – it could move a limited number of foreground objects very rapidly on a second layer over the background without redrawing the entire screen. Both layers required RAM, but with cheaper RAM we could produce arcade-quality games rendered by a console that could be sold to retailers for under $130."

Bromley was the perfect person to tackle such a project because he was a keen arcade gamer himself and instinctively knew what was required to replicate the thrills generated by cutting-edge coin-op hardware. "I was a coin-op alumnus," he says. "I knew almost everyone in the business and had access to the top people in each company. We knew that in order to sell the console we needed to have a cartridge library – and thus began the licensing frenzy. I introduced Coleco's head of licensing Al Kahn to many of the coin-op game companies. He would spearhead the licensing while my team developed the console that could render them. I was part marketing and part design."

Arcade titles of the day had the power to make or break new home hardware – a fact that Bromley was acutely aware of, because acquiring killer titles was all part of his overall strategy for the ColecoVision. "Originally, I had two games in mind; if we could get the rights, we could blow everyone out," he states. "The first was *Zaxxon*, a 3D game which was one of the best-earning titles at the time. The other was *Turbo*, one of the best driving games ever – at least in the early Eighties. I would have liked *Space Invaders* and *Pac-Man*, but Atari had already gobbled them up. I argued against doing 'knock-offs', which was the custom of many home game companies at the time. I urged Arnold Greenberg to pay for the licences. Besides being the right thing to do, I argued that if we paid for the actual arcade game title, we did not have to describe the game or wait for customer word of mouth to promote its virtues. Just say *Turbo* or *Zaxxon* and every kid would know what you were talking about and immediately want it."

This approach – which seems obvious today but was considered high-risk at the time, hence the proliferation of clones based on famous coin-op machines – had a two-way advantage. "When a toy company promotes its home games, usually months later than the arcade introduction, the TV ads and publicity create new interest in the original arcade game," elaborates Bromley. "Because we often could not completely fit most games onto a cartridge, the kids went back to the arcades to see all the levels and features not found in the home version. Thus, we created an amazing commercial symbiosis: because the kids already knew what the game was, home sales didn't ramp up; they exploded. Thanks to that explosion, the media covered the products and prolonged the revenue stream at the arcade venues. Both the coin-op operators and manufacturers benefited from this exposure."

However, despite Bromley's hard work and the creation of a visionary business strategy that had the potential to make the company millions of dollars, the plug was very nearly pulled on the entire ColecoVision project. "Even at a very late date, Coleco's

“We wanted to make an arcade-quality videogame, but it was always shot down as too costly”

SPECIFICATIONS

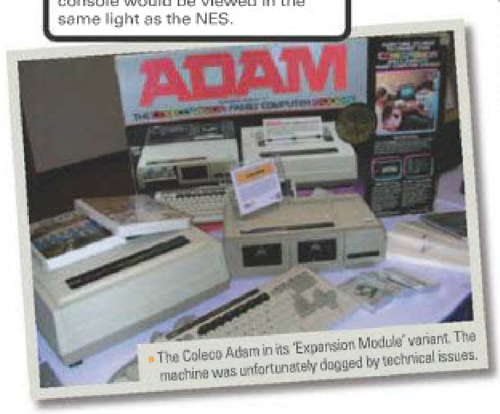
Year released: 1982

Original price: $174.99

Associated magazines: *ColecoVision Experience*

Buy it now for: £40+

Why the ColecoVision was great: More powerful than its rivals and combining arcade-quality games with the tantalising promise of expandability, it's little wonder that the ColecoVision sold impressively when it was released. Official coin-op conversions of massive titles such as *Frogger*, *Zaxxon*, *Donkey Kong* and *Turbo* were light years ahead of what was available on the Atari 2600/VCS. Had the videogame crash not happened when it did, chances are Coleco would still be around and its console would be viewed in the same light as the NES.



» The Coleco Adam in its 'Expansion Module' variant. The machine was unfortunately dogged by technical issues.



sales and marketing was about to drop the product," he remembers with a grimace. "I had to privately talk Arnold Greenberg into going forward. My argument was that the Atari VCS/2600 and Mattel Intellivision could not do either *Zaxxon* or *Turbo* in any way close to the ColecoVision, which had twice the horizontal resolution of the Atari VCS and half again that of the Intellivision. Atari was using what was essentially a chip that directly wrote the screen on the fly; thus, any complex graphic would take too long to be displayed. Add to that speed limitations that made it impossible to render graphically interesting objects fast enough to create hand-eye co-ordination difficulties. It just could not be accomplished with Atari VCS technology. The Intellivision had even more issues. It used General Instruments' five-chip set with several chips used to write different sectors of the screen. There were extensive restrictions on moving from one sector to another, creating problems moving objects diagonally over the boundaries."

Bromley was very aware of the Intellivision's limitations because he had a hand in developing the hardware inside the rival console, as at one point Coleco was about to snap up the chipset itself. "I helped develop the chipset and its operating system," he reveals. "After spending almost two years working with General Instruments, trying to fix a myriad of problems, I suggested that Coleco walk away from it. We did, and much to my amusement Mattel bought it. I was wild with glee. We knew that we could be vastly better than our competitors and they couldn't fight back."

Bromley's unwavering faith in his creation paid off, because the ColecoVision eventually made it into production. The machine's raw graphical power and clear technological advantage over the competition helped it sell 2 million units before the world came crashing down in 1983, but possibly the biggest contribution to the ColecoVision's success was the game that was given away free with each console: Nintendo's *Donkey Kong*. The story of how Coleco came to acquire this highly desirable licence from under the nose of the incumbent Atari is the stuff of videogame folklore, and Bromley is more than happy to exclusively reveal the entire gripping saga.

"It all began with a business trip to Kyoto," recounts Bromley. He was in Japan to meet with Nintendo president Hiroshi Yamauchi. "It was late afternoon when we were allowed to enter the supreme chamber. The room was one quarter the length and width of a football field and was completely done, floor to ceiling, in matched teak panels. I don't recall as much as a clock or any picture on the walls. The only thing that broke up this expanse was the doorway opening, one eight-foot desk in the centre of the room with nothing on it but a pad and pencil, two plain wooden chairs set in front of the desk and one very tall-backed leather chair behind it. When we entered, we were the fifth, sixth and seventh objects in the room. I sat down in the left-most chair in front of the desk, and my friend, translator and mentor in all things Japanese, Makihara-san, sat next to me. Yamauchi-san's aide said 'Yamauchi-san will be in shortly,' and then, right on cue, he made his entrance. He came into the room via the parting of the wall behind the desk, which we soon realised was a door disguised as a panel. I then noticed that our entrance way was no longer visible – apparently all doors to this room were panels, or vice versa. I fully expected that behind every panel in the room was a samurai warrior ready to pounce, lest I make the smallest mistake in etiquette!" The intense formality of the setting was clearly intended to intimidate those who arrived at Nintendo's offices

Community

THE BEST COLECOVISION WEBSITES



ColecoVision Zone
www.colecovisionzone.com

■ A superlative ColecoVision reference site with complete listings of games, a collection of vintage TV commercials, original documents, and photos of rare prototypes. The textual information is ably supported by some brilliant photographs and you can even browse issues of the short-lived *ColecoVision Experience* magazine.

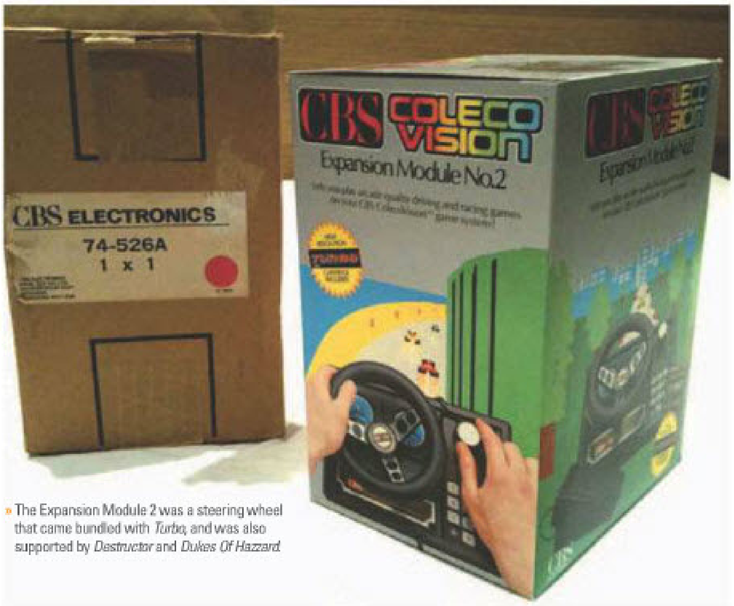


ColecoVision.dk
www.colecovision.dk

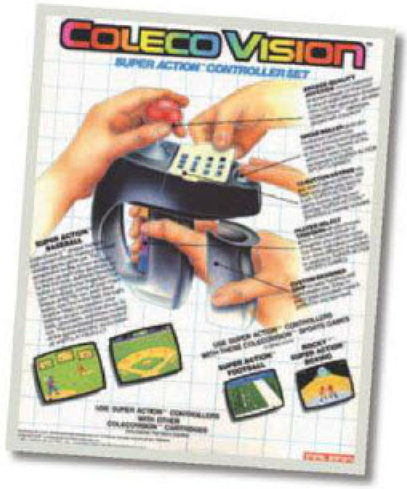
■ A Danish fan site that has a particular focus on the budding ColecoVision homebrew scene. As well as plenty of information about the console, it's also the home of CollectorVision, a group of coders that is producing games for the machine. A legally dubious version of *Mario Bros* is the most impressive effort, and more titles are promised.



» This advert was released late in the console's life and shows the Super Game Module, which was never released.



» The Expansion Module 2 was a steering wheel that came bundled with *Turbo*, and was also supported by *Destructor* and *Dukes Of Hazzard*.



to do business, and the mind-games from its president continued as the discussions progressed.

"Yamauchi-san seemed not to understand a word of English," explains Bromley with a wry smile. "Every word we said was translated. A year later I found out that he understands English extremely well." Other nefarious tactics were employed to ensure that the Japanese firm was always in the strongest position. "I learned never to tell Yamauchi-san the correct day or even time of our departure," says Bromley, "because he played an effective negotiating game. He continuously discussed non-essential items and held back important responses, then, when there was very little time before we had to leave to make the train back to Tokyo, he began the real negotiations. At this point there was a terrible pull to give in on any remaining points in order to make the train. Thus began my first lesson in commercial samurai strategy: always lie about when you must leave!"

Bromley returned to Nintendo the next day to resume negotiations, and it was on this fateful visit that he stumbled across the game that would become the ColecoVision's secret weapon. "We were shown some very unexciting videogames, as well as some handhelds that were very popular in Japan, but I felt these wouldn't work in the US," remembers Bromley. "Afterwards we had an informal late lunch at the headquarters. It was a very simple Japanese meal, not meant to impress. I enjoyed it thoroughly. After trying lots of unknown stuff – I ate these things with the conviction that they did not want me dead, and besides, they also ate it – I accepted many cups of tea, after which I asked about using the bathroom." What followed is probably the most famous trip to a toilet in videogame history.

"It turned out that the bathroom was on the floor above," explains Bromley. "I decided to find it alone, and when I came out I passed an open door that displayed a familiar silhouette – the standard upright cabinet seen in all videogame arcades. I turned on the light and there, for the first time, was *Donkey Kong*, complete with a picture of a gorilla on each side. I fell in love right there, no question." Bromley knew this title – which was hitherto unknown in the West – could be the game to propel his console into the public consciousness. He also knew he had to act fast. "A meeting was arranged for the next day," he reveals. "I said I wanted the rights to *Donkey Kong*. I didn't want Atari to find out about this game. After a lengthy conversation, Makihara-san told me that Yamauchi-san wanted a $200,000 advance and a $2 per unit royalty. It was around 10am and Yamauchi-san knew that I needed to catch my train, so then he added the kicker: the $200,000 must be wired to his account by midnight, or it's not a deal." The odds were most certainly against Bromley. "The most Coleco had ever paid for an advance for any licence up to then was $5,000," he says. "Also, they never, ever paid more than five per cent of their selling price; the worst case would be about 90 cents. Now because of the need to wire the money before 12am Tokyo time, I needed to take the next available train. I would have to call as soon as I got back to my hotel in Tokyo, which would be in the afternoon and therefore wake up Arnold Greenberg in the US, the only one who could authorise an immediate wire transfer. I was to call him at home, wake him up, and then ask him to wire $200,000 for a game he has never seen or heard of. If that wasn't bad enough, he then has to agree to more than twice the usual royalty amount!"

Bromley stayed firm, spurred on by the fact that he knew that *Donkey Kong* would be a smash hit once Western gamers laid eyes on it. "Upon my return to Tokyo, I called Arnold Greenberg from my room – I was shaking a little," he admits. "It was about four in the morning and I got: 'Whaaaaa? Do you know what time it is?' I referred him to a conversation we had days before with marketing and sales; we all agreed we needed a really spectacular game to bundle with the ColecoVision console to create an impact. I then told him of the conditions: $200,000 advance and the $2 per unit royalty. I said: 'I have found that game.' To my surprise, all he said was: 'Is it really that good?' I told him that it was as good as *Pac-Man*. He asked what it was called and I uttered '*Donkey Kong*'. Silence. For the first time

» This portable ColecoVision was produced by legendary hardware modder Ben 'Ben Heck' Heckendorn.



Variants



ColecoVision

■ The original machine was launched in 1982 with *Donkey Kong*. 500,000 units were sold, largely on the strength of this conversion. The all-important expansion slot offered the ability to upgrade, but sadly the console was discontinued in 1985.



ColecoVision Adam

■ The Adam came as an expansion for the core console or a standalone computer, capable of playing ColecoVision cartridges and more. Defects plagued the machine and it was discontinued in 1984; Coleco lost a reported $80 million on it.



Super Game Module

■ The final expansion module was effectively an upgrade to boost its power. Similar to Nintendo's Famicom Disk System, games came on high-capacity 'wafers', with more memory for bigger games. *Super Donkey Kong* was planned, but the module never made it out.



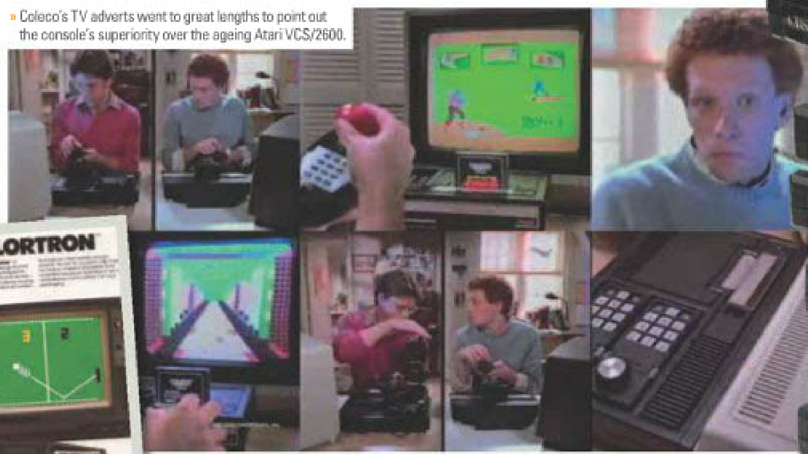
Dina 2-in-1

■ A clone of the ColecoVision and Sega SG-1000 produced by Taiwan-based Bit Corporation, this machine had a cartridge slot for each format. The pads were more traditional, and the ColecoVision's numerical keypad was moved to the main body.

I realised how silly the name sounded. What seemed like an hour later he said, 'Okay. Let's do it,' and said he would wire over the money as soon as the banks opened that day." Bromley had just secured the home console rights to one of the hottest games of the Eighties – or at least, he thought he had, until the saga took an unwelcome twist thanks largely to the Japanese way of doing business.

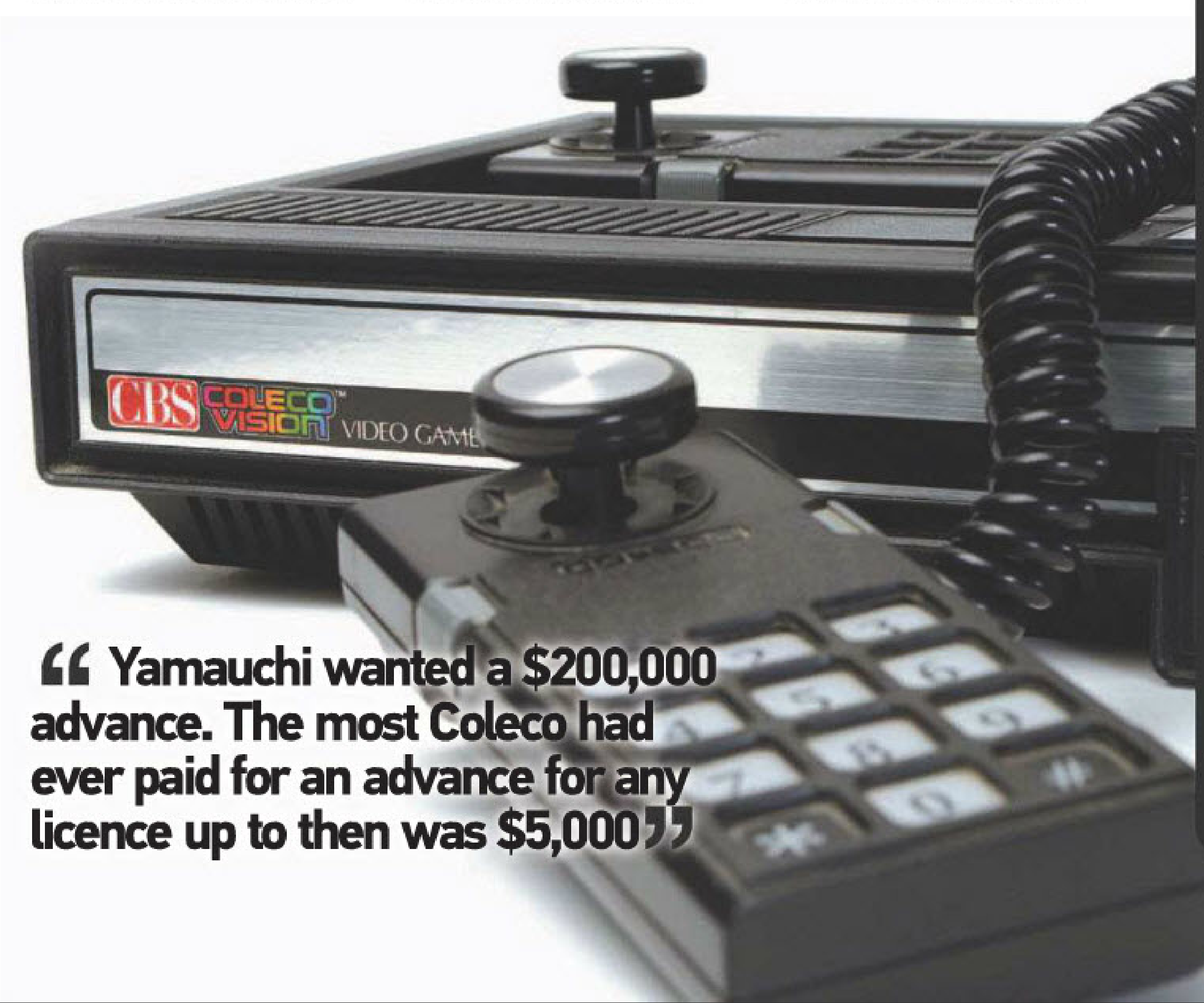
"Legal contracts were not something that was part of Japanese culture at that time," he explains. "We were going to create the agreement over dinner. Makihara-san, who at this point was accepted as official translator for both sides, started the negotiations and wrote down six or seven points on a cloth napkin. I forget how many points we ended up with, but when translated into English on still another napkin, I could read them all without unfolding it. We had a deal. I took my $200,000 napkin and went home." Upon returning to the US, Bromley began to have doubts about the strength of the deal he had just secured. "In the electric buzz of Tokyo, my linen napkin – now valued in the millions based on sales projections – seemed adequate. I can't remember the look on Coleco's in-house attorney's face when I pulled out the napkin, because I didn't want to see it. I tried to explain that this is how the Japanese do business: you all get high on sake, write down the points that matter, and try to get up in the morning without a hangover."

Bromley's sudden apprehensiveness was well founded; at the next Consumer Electronics Show, the house of cards very nearly collapsed completely. After months of trying to get Nintendo to sign a contact that was legally binding in the eyes of US law, Coleco finally got Yamauchi to agree to hand over the vital document at the company's CES booth. Needless to say, it didn't exactly go according to plan. "His daughter Yoko spoke to me and said that Yamauchi-san had given *Donkey Kong* to Atari," says Bromley with a face that still displays the pain of the moment. "I froze. *Donkey Kong* was going to be the ColecoVision anchor. All our marketing plans were placed around that game. I was in a cold sweat. I sat down in my room and was thoroughly depressed for about two hours. I think it was 10 or 11pm


» Coleco's TV adverts went to great lengths to point out the console's superiority over the ageing Atari VCS/2600.







"Yamauchi wanted a $200,000 advance. The most Coleco had ever paid for an advance for any licence up to then was $5,000"

Collecto-Vision

Because the ColecoVision made such an impact at the time with its arcade-quality visuals, it's perhaps not surprising to learn that a sizable collector's market has grown up around it today. ColecoVision fanatic Ole Nielsen – the man behind ColecoVision.dk – vividly recalls the day his obsession started. "It was love at first sight," he says. "For me, it was primarily the graphics, tunes, and realistic game sounds the machine could deliver." The inherent appeal of the machine is amplified by the fact that it's ideal for people looking to build a complete anthology of titles in a short space of time.

"The Colecovision is perfect for collectors," states Junior Tétreault, founder of ColecoVision Zone. "The game's library is not too big – around 125 titles – and most of the games are fun." That said, there are a handful of super-rare carts that continue to elude devoted ColecoVision addicts. "Xonox games are hard to find," reveals Tétreault. "The company released 12 games and most of them are very bad and didn't sell well. Two of the double-headers, *Tomarc The Barbarian/Motocross Racer* and *Sir Lancelot/Robin Hood*, are the rarest. The late release of *Tournament Tennis* by Imagic, when the console was almost discontinued, makes this game a sought-after title. The four educational games made by Fisher-Price – *Dance Fantasy, Linking Logic, Logic Levels* and *Memory Manor* – are almost impossible to find boxed. Ironically, the most common cartridge, *Donkey Kong*, is also the rarest boxed game in North America. The cart came with the console without a box but the game was also sold as a standard retail release."

DAVE JOHNSON

Director of video graphics, Coleco



How did you become involved?
I was working in New York as a graphic designer but, having studied computer graphics, I was looking for an opportunity to work in my field. I answered an ad and met with a headhunter who set up an interview with Eric Bromley, the head of electronic games at Coleco. He was in town for Toy Fair, an annual industry event.

What did you think of the ColecoVision when you first saw it?
My first exposure was at the aforementioned Toy Fair during my job interview. There was a video wall showing mock-ups of animated cardboard cutouts. I knew enough about video, animation and computer graphics to realise that the mock-ups were fake and I pointed this out to Mr Bromley. He then pointed to one video of a Smurf running across a side-scrolling background. It was clear that this was real and was several notches above the existing home game systems.

What did your role involve specifically?
I ran a department of artists who were responsible for the development of graphics for all of the games. Day-to-day involved visiting every artist and offering suggestions, technical help, art direction, options and so on. I worked, hands-on, on several games when there was time.

What was it like working at Coleco at this time?
It was a group of very talented, super-smart, very motivated people. At the beginning, we didn't know if the product would be a success, but it was great fun in any case. As the product took off, it was very rewarding. But, by the end, we were all a little tired of the place.

How did you go about converting arcade hits to the machine and what kind of support did you get from the original developer?
The deals with the coin-op manufacturers were usually a mystery to the design group, especially in the beginning. A new machine would appear from Japan and we would set to work studying it. We had no support from the manufacturers and, at that time, code was not at all portable. We would find someone who had a knack for the game and spend hours videotaping every level. Game designers would then sit, review the tapes and document the gameplay. The artists would reproduce the graphics.

You also created original titles for the console. How did the design process differ from the coin-op ports?
A similar production process as in the ports in some respects: a game design document, a set of graphics. The creative process, in some cases, was slower and more involving. *Smurf* was the first. Eric Bromley was the lead on the project. I have to give him credit with inventing the side-scrolling concept. I'll take credit for the idea of points as you pass certain hurdles. Seemingly simple concepts but they were new at the time.

Is it true you personally asked for Coleco to secure the rights to convert *Spy Hunter* because you were such a fan of the coin-op?
There was an annual trade show where coin-op manufacturers showed off their wares. I went with George Kiss, the head of software development and also my boss. I remember begging him on the plane home to buy the rights. I was like a kid asking for a Christmas present. I really thought the music was hot; the game itself was not that interesting. We did get the rights but who knows if my request had any effect.

Why was there such a long pause before each ColecoVision loaded? Was this a technical thing?
No, no, no! Please put that rumour to rest! One day, Eric Bromley stood at my desk with a bunch of marketing execs and watched a simulator of the console. They had their watches out and counted down, deciding how long the opening screen should last. It was all about branding. The later versions of the operating system fixed that, but it was too late.

when the depression turned to anger. I called Yamauchi-san's room and asked to talk with him. His daughter answered and said that he had gone to sleep and was not to be disturbed; she said it very politely and I hung up. But I got still angrier at having my dream disintegrated by Atari's money, so I called again. She answered and I poured my heart out; I told her how the ColecoVision was my dream, how I put together a great team to build the best home videogame console ever and that *Donkey Kong* would look like crap on the Atari VCS. I guess she liked me because she asked if I could be there in 15 minutes. It was apparent that she was my ally – she believed me that this was not just a product, but also my dream. I had someone who believed what I said about the virtues of the ColecoVision and could relate them to Yamauchi-san as no one else could." With Yoko Yamauchi's assistance, Bromley's passion clearly shone through, because he was again granted the domestic rights to the game – this time in a legally binding sense.

With the *Donkey Kong* saga at an end, the ColecoVision had a game that proved just how powerful the machine was. By this point Nintendo's title had become a worldwide smash. Released in August 1982 and bundled with *Donkey Kong*, the machine would find its way into half a million American homes by Christmas of that year.

Expandability was the key reason for the ColecoVision's admirable performance at retail. "There were two reasons why the ColecoVision expansion slot was carefully placed in the front," explains Bromley. "It was the key to our differentiation from other manufacturer's products. When we showed the 'beauty shot' in our ads we did not need a second picture to show it. It was always there; it promised to take you to exciting, unknown realms. That alone sold a lot of ColecoVision consoles. Secondly, it was a promise that everyone could soon have a real computer just by adding a module to the videogame console."

The ColecoVision Adam was supposed to be this home computer module, but it morphed into a fully fledged machine in its own right. "We created ColecoVision's operating system and the expansion slot connector for, among other things, the Adam computer. It was part of our plans from day one. The Adam was originally a keyboard with a deck that extended about two inches beyond the function keys containing the other computer circuits. It fit snugly against the console at the same height." The Adam's story is too lengthy and remarkable to cover in depth here, but suffice to say that it wasn't the success that Coleco had envisaged. However, the expansion slot was invaluable for other uses.

"We were the first to make home videogames to closely resemble current arcade games," states Bromley. "But if we were to really push that claim, we needed to have a steering wheel controller – complete with gear shift

» [ColecoVision] (Below) Coleco's own Cabbage Patch Kids predictably starred in their very own ColecoVision adventure.





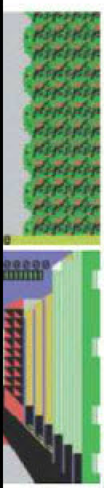
ColecoVision Reborn



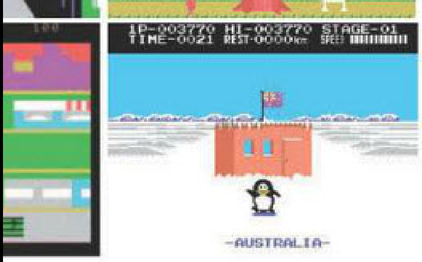
The ColecoVision may be nearly 30 years old, but that doesn't mean that games aren't still being cooked up. Thanks to the internet, a solid development community has sprung up and released several notable titles on the console.

"In 2009, *Mario Bros*, *Pac-Man Collection*, *Ghost 'N' Zombie*, and *Ghostblaster* were released by homebrew programmers," says ColecoVision Zone's Junior Tétreault. "A new expansion module is planned for some time this year, which will allow more sophisticated games. This will help the ColecoVision community to grow and will encourage people to rediscover the console they played 25 years ago."

Fellow ColecoVision enthusiast Ole Nielsen is an active part of this revival; he's involved in CollectorVision, which is the group responsible for many of the aforementioned new releases. "What appeals to me today is the homebrew games that many talented people have chosen to create," he says. "When the game is finished, they sell them complete with box, label and manual – just like an authentic ColecoVision release." As a gamer who has experienced the machine both in its prime and more recently thanks to its revival, Nielsen admits that it's the console's intrinsic appeal that keeps him coming back for more. "For me, it's still engaging regardless of whether the game is from the early Eighties or is a newer title, which attempts to replicate the experience."







and an accelerator – the ability to attach realistic weapons and the flexibility to match future arcade game controls. The expansion slot was a way to get beyond the 'joystick and button' control system. We also marketed a track ball controller and a 'Super Controller' for boxing and baseball games, which could control four or more objects at once. This was originally designed with 'tactile feedback' – a feature that could not be engineered at the time."

Arguably the most intriguing hardware add-on was a module that allowed ColecoVision owners to effortlessly increase their software library – providing they had owned an Atari VCS previously. "We had one of our better engineers work secretly on a circuit that would render Atari cartridges on the ColecoVision," Bromley recalls. "The idea was if a kid already had those Atari games they could use them on the ColecoVision. This would counteract the parent's mantra: 'But you already have a videogame console.' The kid could say: 'But I can still use my old cartridges.' After several months of development, we finally saw the finished VCS player circuit and it worked perfectly. However, the module was more expensive to build than the actual Atari VCS was to buy. We toyed with the idea of buying Atari chips from one of their secondary suppliers, but that idea was dropped very quickly."

Atari took legal action when the module hit the market, but because it was possible to assemble a VCS-compatible device using standard parts, it was ultimately unsuccessful – although a royalty agreement was eventually put in place between the two firms.

Early in 1983, the ColecoVision passed the 1 million sales marker, and had the industry stayed buoyant, Coleco would have almost certainly been in with a chance of becoming the number one hardware manufacturer in the States. Sadly things didn't stay the same; the infamous crash of 1983 put the industry into a nosedive and all of Coleco and Bromley's hard work was ruined.

The company staged a retreat from the videogame arena, moving back into children's toys – the most notable range being Cabbage Patch Kids. "They bet on plush, Nintendo bet on electronics and video," says Bromley with a shrug of the shoulders. "Nintendo hung in until videogames took off again, while the Greenbergs instead blamed myself and the other ColecoVision guys for the failure; all the guys who took them in 1976 from bankruptcy to a million-dollar company and in the next eight years to almost a billion." However, even cute fabric babies couldn't save the firm's bacon. "It only took a couple of years after we left to get back to bankruptcy," Bromley comments. "If Coleco hadn't given up on videogames – crash or not – it would have been here today instead of Nintendo."


Expansion Module #2

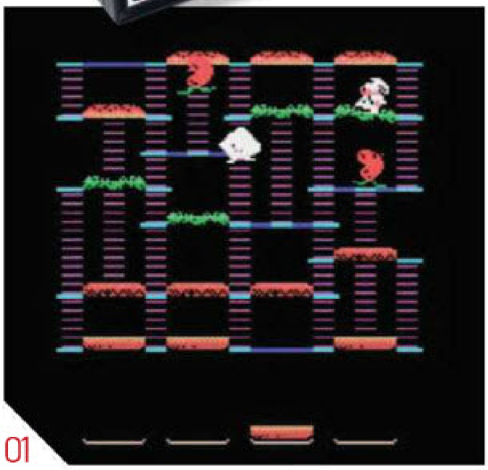
ColecoVision Personal Computer Expansion Module



» The above promotional flyer details the steering wheel – better known as Expansion Module 2 – and a brief description of what would eventually become the Coleco Adam personal computer system.



PERFECT TEN



01

BURGER TIME

» **RELEASE:** 1984
» **PUBLISHER:** DIGIMAX
» **PRICE:** £10+
» **BY THE SAME PUBLISHER:** DEFENDER

01 One thing that constantly impresses with the ColecoVision is the sheer number of excellent arcade ports that are available for it. Coleco's port of *Burger Time* is easily one of its best, and the end result is an incredibly faithful conversion of the cult arcade coin-op. Animation throughout is superb, with the large, well-animated sprites rarely suffering from flickering, while the gameplay is extremely close to its arcade parent. Pete doesn't feel quite as fast as he did in the original game, but a choice of four difficulty levels and excellent, tight controls ensure that *Burger Time* will be a game that you'll constantly find yourself returning to. Highly recommended.

FORTUNE BUILDER

» **RELEASE:** 1984
» **PUBLISHER:** COLECO
» **PRICE:** £40+
» **BY THE SAME PUBLISHER:** MOUSE TRAP

02 Predating *SimCity* by a good five years, *Fortune Builder* is an extremely polished sim that proves that there was more to Coleco's machine than just arcade conversions. Initially you're presented with a large space of land, but you're soon able to build a staggering range of items, ranging from simple roads to apartments and even casinos. The aim is to ensure that your city reaches a certain value, but your success can be hindered by random events like rampaging termites. For all its addictiveness, *Fortune Builder* really comes into its own with the addition of its insanely polished two-player mode that allows you to compete or work together in order to make the best city.



02

GORF

» **RELEASE:** 1983
» **PUBLISHER:** COLECO
» **PRICE:** £7+
» **BY THE SAME PUBLISHER:** ILLUSIONS

03 As with every other official port of Jamie Fenton's coin-op, the ColecoVision version is missing the '*Galaxians*' stage. That omission aside, this is nevertheless an excellent arcade port and is miles above anything on similar consoles at the time. It's missing the cool speech from the original, but otherwise the sound is strong, mimicking its arcade parent. Visually it's also impressive, with well-detailed sprites that perfectly capture the spirit of the arcade hit. Best of all, though, is the gameplay. Yes, the missing stage is a pity, but the excellent collision detection and controls certainly make up for it.

TURBO

» **RELEASE:** 1982
» **PUBLISHER:** COLECO
» **PRICE:** £20+
» **BY THE SAME PUBLISHER:** MR DO!

04 The astonishing *Turbo* can only be played with the ColecoVision's steering wheel controller. With that caveat out of the way, let's examine one of the machine's most impressive games. While not a racing game like other titles on the system – you're simply rated on how many other cars you pass – *Turbo* remains one of the best examples of the genre. Not only is the sense of speed sensational, but the graphics are phenomenal, with huge buildings that other racers of the time could only dream of. An unforgettable experience and easily one of the ColecoVision's best ports.

RIVER RAID

» **RELEASE:** 1984
» **PUBLISHER:** ACTIVISION
» **PRICE:** £13+
» **BY THE SAME PUBLISHER:** PITFALL!

05 Activision released plenty of its Atari games on the ColecoVision, with many of them being superior to the 2600 versions. *River Raid* is no different, and even after a quarter of a century, this port remains brilliant fun. The sprites are more refined, the scrolling is smoother and everything feels that little more polished. Ultimately, however, it's the enduring gameplay that grabs you, and *River Raid*'s blend of strategic shooting – blowing up fuel barrels gives you points, but reduces the available fuel – and hectic blasting ensures that you'll never become bored of it.



03

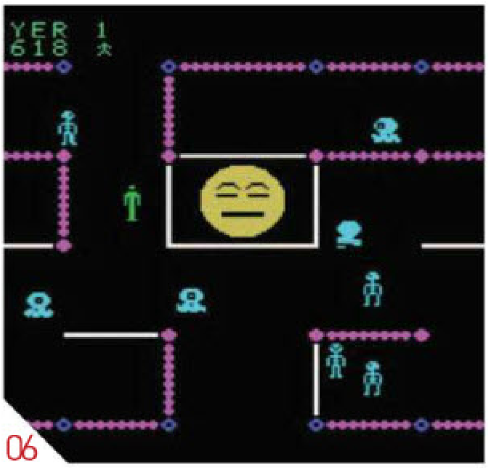


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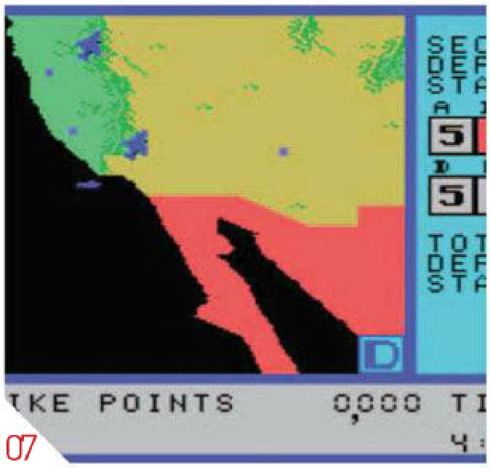


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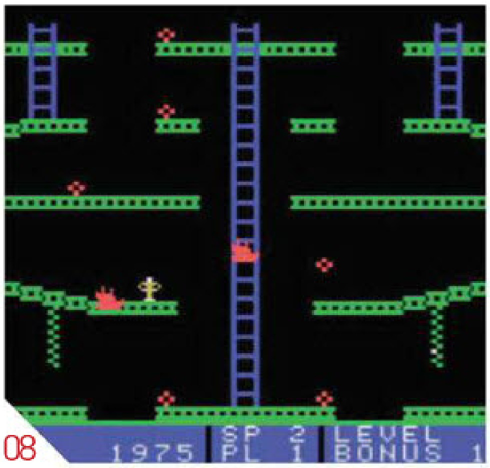
GAMES If you want excellent arcade ports and original content, this really is a console you should own



06



07



08

FRENZY

» **RELEASE:** 1984
» **PUBLISHER:** COLECO
» **PRICE:** £13+
» **BY THE SAME PUBLISHER:** LOOPING

06 ***Frenzy* wasn't ported** to many home systems, but as we mentioned in last month's issue, the ColecoVision version really is an impressive port. The controls are responsive, allowing you to navigate each room with ease, and collision detection is as tight as a proverbial drum, while the AI ensures that you'll find plenty of challenge. Graphically it delivers thanks to a minimum amount of flicker, authentic sprites and solid animation of the lead character. Ultimately, though, it's *Frenzy*'s frantic gameplay that will keep you returning. Another great game that shouldn't be missed under any circumstances.

WARGAMES

» **RELEASE:** 1984
» **PUBLISHER:** COLECO
» **PRICE:** £20+
» **BY THE SAME PUBLISHER:** SUPER ACTION FOOTBALL

07 **With so many** great arcade ports, it's refreshing to add an original ColecoVision game to the list. The nearest descendent to *WarGames* is Atari's *Missile Command*. The difference here, however, is that you're defending the United States, and you have to nip between each section and see off the incoming missiles. The end result is an amazingly hectic experience that really cranks up the tension as you desperately try to fend off increasingly tough waves of warheads. The aesthetics are fairly simplistic but you'll be having so much fun that you simply won't care.

JUMPMAN JR

» **RELEASE:** 1984
» **PUBLISHER:** EPYX
» **PRICE:** £15+
» **BY THE SAME PUBLISHER:** GATEWAY TO APSHAI

08 **Yes, the conversion** of *Donkey Kong* is impressive, and yes, *Miner 2049er* is extremely polished, but this superb effort from Randy Glover and Chris Capener is definitely our favourite ColecoVision platformer. The visuals are pretty uninspiring, but it matters not as the frantic gameplay is absolutely sublime. There are 12 stages to make your way through as Jumpman bounds across each stage in his pursuit of bomb. It may not be the most jaw-dropping-looking ColecoVision title, but in terms of gameplay it's virtually unmatched and a must for platform fans.



09

PEPPER II

» **RELEASE:** 1983
» **PUBLISHER:** COLECO
» **PRICE:** £10
» **BY THE SAME PUBLISHER:** Q*BERT

09 **Think of a** cross between *Pac-Man*, *Qix* and *Amidar* and you'll have something in your mind's eye that quite possibly resembles *Pepper II*. A port of Exidy's 1982 coin-op – we've no idea what happened to the original *Pepper*, or if it even existed – each screen is full of mazes and enemies and is highly reminiscent of Konami's excellent *Amidar*. The difference, however, is that if you re-cross a line you've re-painted it will open up again, which adds a great level of strategy to proceedings and is further enhanced by the fact that you can actually play across four different stages at the same time. Yes, it's another arcade port, but another we heartily recommend.

DONKEY KONG JR

» **RELEASE:** 1983
» **PUBLISHER:** COLECO
» **PRICE:** £10
» **BY THE SAME PUBLISHER:** DONKEY KONG

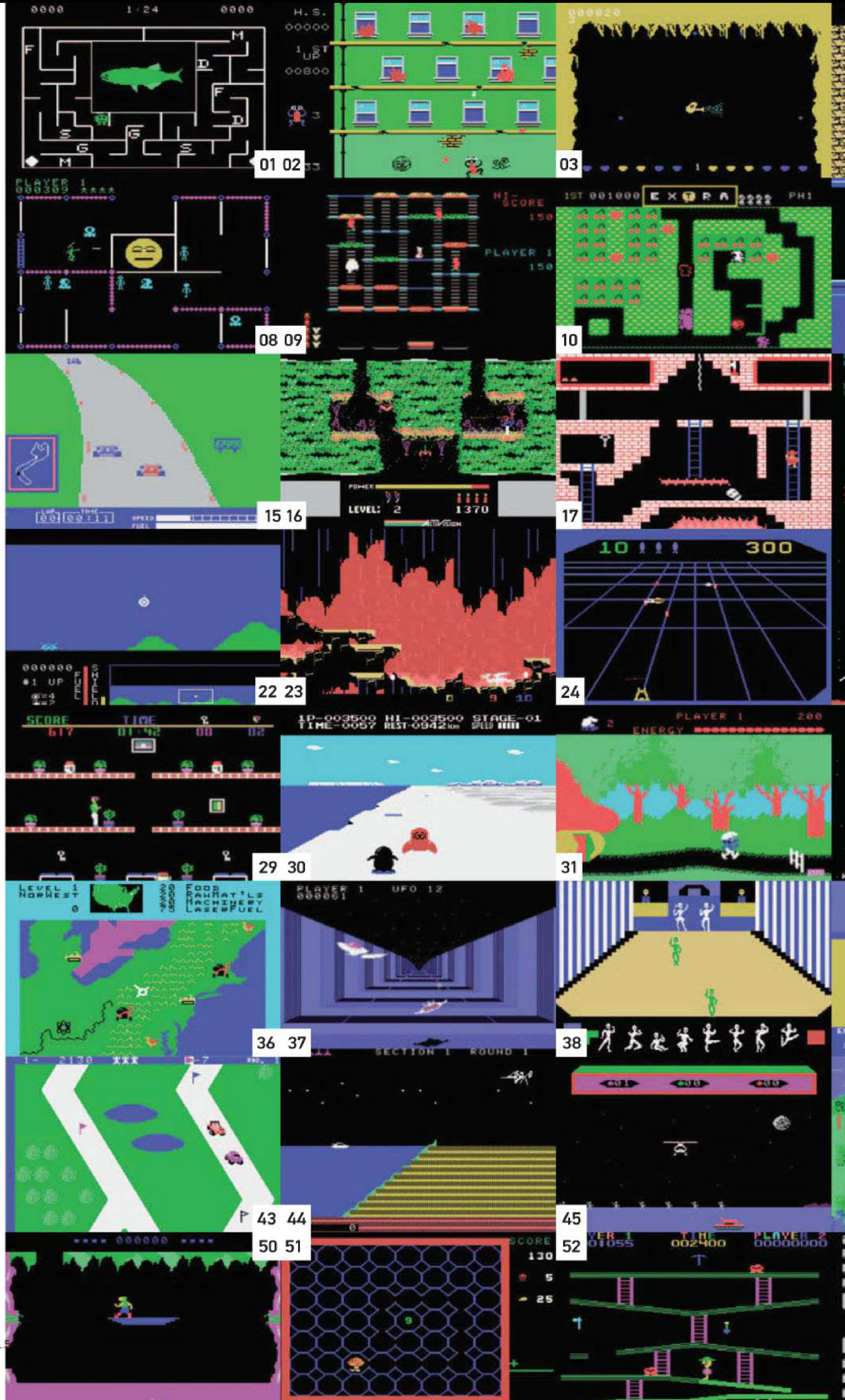
10 ***Donkey Kong* may** have been a pack-in and a huge success for Coleco's marvellous machine, but we actually prefer *Donkey Kong Jr*. It's missing one of the levels from its arcade parent, but this is another predictably good arcade conversion that has you scaling chains as you try to rescue your dad from an irate Mario. Gameplay is extremely smooth; the large visuals do a great job of capturing the cartoony sprites of the arcade original, while spot-on collision detection means that you'll never lose a life unless you messed up yourself. It's not quite arcade perfect, but this is another cracking conversion that leaves the Atari 2600 effort on the starting blocks.



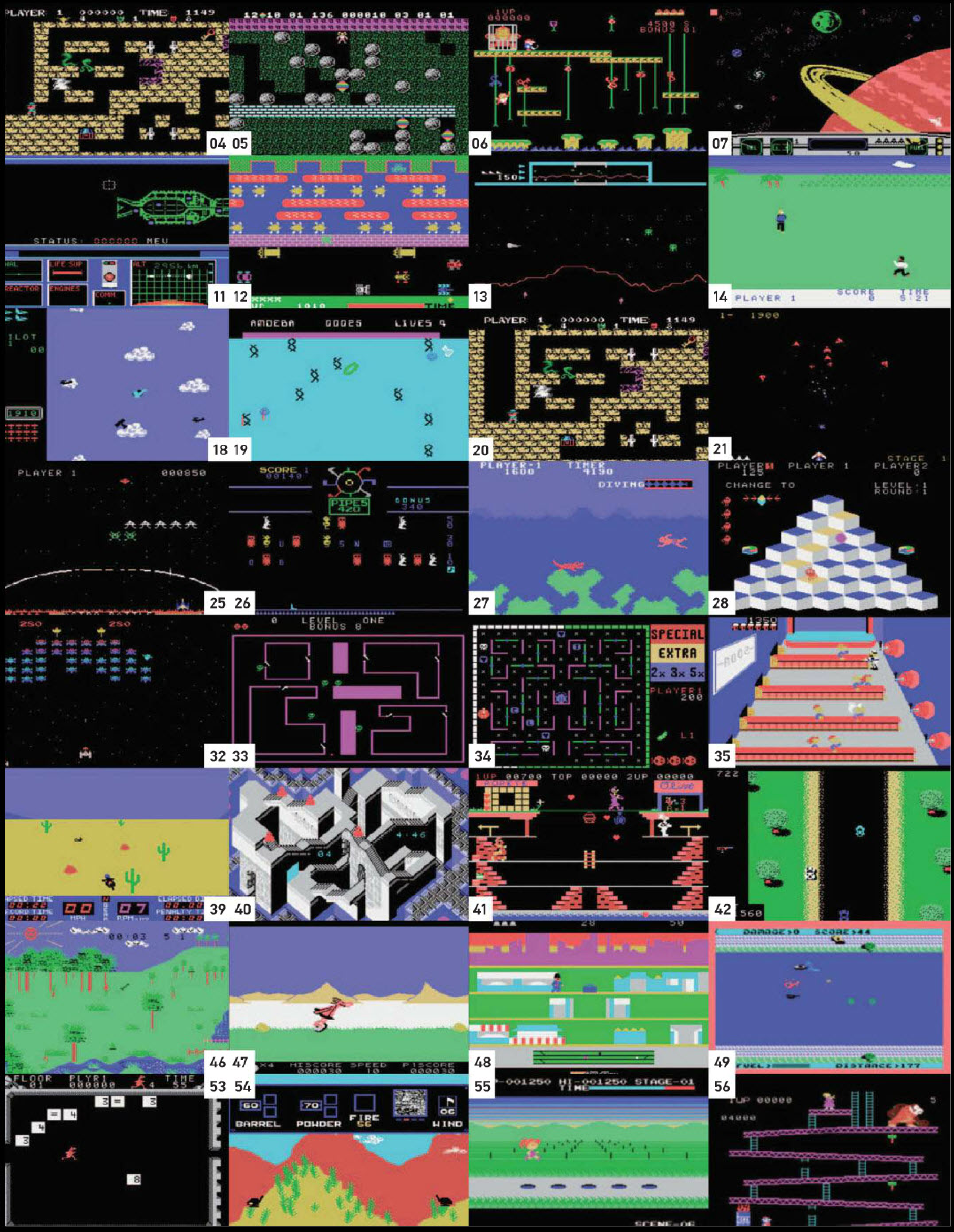
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ColecoVision and the rest…

A powerhouse when it came to spectacular arcade conversions, Coleco's machine also boasted plenty of original games. Here are just a few of its best…



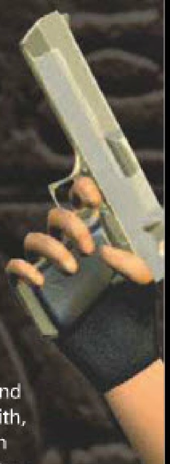
01 ALPHABET ZOO
02 FRANTIC FREDDY
03 SLURPY
04 TUTANKHAM
05 BOULDERDASH
06 DONKEY KONG JR
07 MOONSWEEPER
08 FRENZY
09 BURGER TIME
10 MR DO!
11 2010: A GRAPHIC ACTION GAME
12 FROGGER
13 DEFENDER
14 CHUCK NORRIS SUPERKICKS
15 PITSTOP
16 H.E.R.O.
17 MONTEZUMA'S REVENGE
18 TIME PILOT
19 EVOLUTION
20 TOURNAMENT TENNIS
21 GYRUSS
22 VICTORY
23 WING WAR
24 BEAM RIDER
25 GORF
26 CARNIVAL
27 JUNGLE HUNT
28 Q*BERT
29 THE HEIST
30 ANTARCTIC ADVENTURE
31 SMURF: RESCUE IN GARGAMEL'S CASTLE
32 GALAXIAN
33 VENTURE
34 LADY BUG
35 TAPPER
36 WAR ROOM
37 BUCK ROGERS: PLANET OF ZOOM
38 DANCE FANTASY
39 MOTOCROSS RACER
40 ILLUSIONS
41 POPEYE
42 SPY HUNTER
43 UP'N DOWN
44 JAMES BOND
45 CHOPLIFTER
46 ROBIN HOOD
47 BC'S QUEST
48 KEYSTONE KAPERS
49 AQUA ATTACK
50 TOMARC THE BARBARIAN
51 AMAZING BUMPMAN
52 MINER 2049ER
53 WIZARD OF ID'S WIZ MATH
54 ARTILLERY DUEL
55 CABBAGE PATCH KIDS: ADVENTURES IN THE PARK
56 DONKEY KONG



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LOVING LARA C





When Core created Tomb Raider in 1996 it not only unleashed a 3D phenomenon, but also gave the world one of gaming's most iconic characters. Darran Jones charts the cultural rise of the original silicon chick

Lara Croft is the most famous female videogame protagonist in the world. She certainly wasn't the first, and she went through several changes, but she has touched both the gaming industry and the real world, an achievement that very few other videogame characters, with the exception of Mario, Sonic and Pac-Man, have managed.

Thanks to canny promotion on the part of Eidos – something creator Toby Gard wasn't happy about – the rising wave of 'Girl Power', and simply being in the right place at the right time, Lara Croft transcended typical videogame boundaries and in some ways has become even more relevant to the general public than Mario. After all, can you imagine the Italian plumber being used to sell credit cards, Seat or Lucozade on TV, promoting skin cancer awareness or having his own magazine photoshoot? Also can you even imagine a new *Super Mario* film after the atrocity that was *Super Mario Bros* in 1993? Lara has already had two successful films under her belt with a combined global profit of $196 million, with a third on the way, although it's looking unlikely that Angelina Jolie will be reprising the role.

From non-videogame magazine covers to promoting TV channels, and having both a blue plaque and a ring road in Derby named after her – she had 89 per cent of the vote for that honour, if you're interested – she's certainly come a long way since her conception in 1996, and even her creator never anticipated her success.

"It was all a big surprise for everyone," commented Toby Gard when we first had the opportunity to speak to him via a transatlantic call for the launch of *Tomb Raider: Legend*. "I knew [*Tomb Raider*] was good, I knew that what we were making was dynamite, but I didn't expect it to go to number one and stay there for months."

And yet when *Tomb Raider* was created, Lara Croft wasn't even the main protagonist. Having heard about this for many years, we were keen to find out if this was anything to do with the rumour that *Tomb Raider* started off as *Rick Dangerous 3*. Gard simply gave us an emphatic "No" when we caught up with him again recently, and we also put the question to Jeremy Heath-Smith, one of Core's original co-founders. His reaction was completely different, as he just couldn't stop laughing. "Oh no," he was able to tell us after wiping away tears of mirth. "That never actually happened and I've not heard that before, although it's certainly a nice thought."

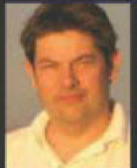
So how did Lara come about, then? Realising that 3D was the future and wanting to create a game that was epic in scope and captured the spirit of the best action movies, Gard created a stubbled hero who had more than a hint of the look of a famous archaeologist about him. After presenting his idea, Gard was asked to reconsider his first choice: "I was told I should consider including three other character choices. From there I designed the girl character and I simply couldn't go back."

We asked Heath-Smith why he wasn't keen on using Gard's original creation. "Because it was Indiana Jones," came his reply. "I just looked at him on the screen and I said to Toby: 'It's a great character, but it's Indiana Jones and I have a sneaky suspicion that Spielberg wouldn't be very happy and that he'd sue us. [laughs] The original idea was just too close to an Indy character. So we tried other ones."

Even after Gard's protagonist was created, Lara still went through several changes before he finally settled on a character that everyone at Core was happy with. "I remember taking inspiration from various places and characters at the time like Tank Girl and Neneh Cherry. I looked around at cool characters but not in any one particular place," he recalls. After trying out various ideas, Gard



WHAT THE INDUSTRY THINKS



Archer MacLean

What do you think of Lara Croft?

Lara Croft has to be one of the first human type game characters to break out into the real world, with fame assured due to constantly looking like she was about to bust out of her Lycra!

She is certainly a media icon, and after a dozen game titles she's gained enough momentum for Hollywood to make two full-on films, with a third in the making. Short of running for president, how much more famous can you get?

Do you have any fond memories of Lara and *Tomb Raider*?

Well, I spent ages playing the first PSone version in about 1996, as it was one of the best early uses of texturing in an immersive 3D game, although I kind of got fed up with running, jumping and shuffling along ledges.

However, I do have a personal anecdote from the era. Prior to *Tomb Raider*, my then-publisher, Virgin, wanted me to get away from snooker games and come up with a character franchise, especially one not based on Jimmy White. At the time *Doom* was a major hit on the PC – we're talking 1993/94 – and I came up with a very fully fledged design for a game simply called *TOMB*, with the hero running around inside pyramids. Some features of that design would still cut it now in 2010. When I presented it to Virgin's management, the first response was that anything Egyptian had always been the 'kiss of death' and my immediate response was: 'Ahh, that's a cool strap line.' Six months later, out comes *Tomb Raider*, and the rest is history.

Also, one of the lads at work got his photo taken at a games show with the pneumatic Nell McAndrew, barely constrained by green PVC. A large print of it and many other 'art pics' ended up stuck to the back of the loo door at work. Last I heard was that he'd emailed Realdoll asking if they could make one for him.

The Adventures Of Lara Croft

Tomb Raider 1996



■ Lara's first adventure had everything: gorgeous visuals, exhilarating set pieces, devilish puzzles and a spunky central character. Add in huge environments to explore and it is little wonder that *Tomb Raider* became such a success.

Tomb Raider II 1997



■ Lara's second outing featured improved visuals, a far greater variety in its locations and a smattering of new moves for its heroine to enjoy. It also enabled Lara to ride a selection of vehicles and was another smash hit for Core Design.

Tomb Raider: Unfinished Business 1998



■ Released to tie in with *Tomb Raider's* Mac release, *Unfinished Business* consisted of the original game and two additional expert chapters. They were created in San Francisco by Eidos.

Tomb Raider III 1998



■ Non-linearity to *Tomb Raider III* meant it was possible to complete stages in a variety of ways. Add in a new save system and a better balance between action and exploration and it was third time lucky for Lara.

Tomb Raider II: The Golden Mask 1999



■ This expanded edition added an entirely separate five-level mini-adventure entitled *The Golden Mask*, in addition to the entire original version of the excellent *Tomb Raider* sequel.



» *Tomb Raider: Legend* was developed by Crystal Dynamics – the first non-Core *Tomb Raider* – and was well-received.

eventually settled on a braided South American beauty named Lara Cruz. Changes from the marketing department at Eidos, which was publishing the game, eventually meant that Lara's surname became Croft and she lost her South American roots and ended up as a member of the British aristocracy. Lara also ended up with a larger bust after Gard accidentally increased it by 20 per cent; the rest of the team liked the change and it was never corrected. Gard became increasingly frustrated with the changes and requests from Eidos and eventually left Core Design shortly after the first *Tomb Raider* was completed.

One thing that many gamers forget is that Lara's console adventures started off on Sega's Saturn and not the PlayStation. Core Design had already proved to be the master of using Sega's Mega-CD, so it seemed like a no-brainer that its first big next-generation game would end up on the Saturn. The deal that Core had in place for Sega wasn't without its problems, however. "The biggest problem we had was that Core had worked out an exclusivity deal with Sega, giving them *Tomb Raider* a full month before it came out on the PlayStation," continues Gard in a recent chat. "Unfortunately, this did mean that the Saturn version ended up shipping with some pretty major bugs, including one that could actually make the game impossible to complete."

Bugs or not, by the time Lara did arrive the hype for her and what she represented was already at fever pitch, with every aspect of the media, videogame

WHAT THE INDUSTRY THINKS



Martyn Brown

How important was the first *Tomb Raider*?
I think the timing was critical in terms of capturing the imagination of the gaming audience at that time. It also coincided with a relatively strong title, which made for an obviously hugely successful game.

What's your favourite *Tomb Raider* game in the series?
As far as what's the best *Tomb Raider* game, I'm going to stick my neck out and say that *Uncharted 2* does it better than Lara ever did!

or otherwise, keen to report on the latest Lara news. The global phenomenon that was Lara Croft didn't really take off until the release of the second game, but such was the scale of the fervour surrounding her, Heath-Smith was in no doubt that Core Design had created a monster.

"I still have the original projections for the first *Tomb Raider* game at Core Design," he begins. "We originally said that we needed to sell around 15,000 copies on the Sega Saturn, another 15,000 on the PlayStation and 5,000 on the PC to make money. The first order eventually came in and it was for 300,000 copies and I was like: 'Oh my god. This is going to be slightly bigger than we thought.'"

For all the focus on Lara, it's easy to forget just what a big deal *Tomb Raider* was when it launched in 1996. While *Super Mario 64* launched in exactly the same year and made Lara look rather cumbersome thanks to Mario's nifty, analogue-controlled athleticism, his 64-bit outing was more like snack-sized bites that you could jump in and out of. *Tomb Raider*, by comparison, felt more like how Gard had originally envisioned: a solid, immersive adventure that other games of the time just couldn't match. The tombs that the globe-trotting Lara investigated boasted fantastic scale that really made you fear for our heroine when you started climbing, while the lush environments were full of detail, further adding to the on-screen immersion. Huge in scope and size – good luck completing it on your first run in less than 17 hours – *Tomb Raider* encapsulated everything that made the adventures of Indiana Jones



» At points, the promotional angle for new *Tomb Raider* games stopped even trying to be subtle.

Tomb Raider: The Last Revelation 1999



Here's where it started to fall apart. A dull adventure, unimaginative set pieces and poor level design meant *The Last Revelation* was a disappointment. Playing as young Lara was a nice touch, though.

Tomb Raider Level Editor 2000



Only available for the PC, this does exactly as you'd expect and is a fairly comprehensive level editor. It's helped create a huge and active fan community on the net and is still in wide use today.

Tomb Raider III: The Lost Artefact 2000



Sometimes referred to as *Tomb Raider III Gold*, this is a sequel to part *III* and released exclusively on the PC. Full of variety, it starts off in the Scottish Highlands and ends up in the catacombs of Paris.

Tomb Raider Chronicles 2000



Splitting the main game into smaller flashback levels is a nice touch, but *Chronicles* feels rather tired. The grappling hook makes an early appearance, and Lara gets a few new moves, but this is a pretty bland effort.

Tomb Raider Starring Lara Croft 2000



Despite sharing elements with the original game, *Tomb Raider* on the Game Boy Color is a completely different adventure with a new plot and 2D visuals. It's the first *Tomb Raider* on a Nintendo console.

so fun to watch. Battling bad guys, facing off against nature itself and plunging into deep, murky pools was all in a day's work for Lara, and while the digital controls that Core had given her let her down somewhat, she was still absolutely fascinating to watch whenever she was in action.

And action was one thing that was high on Lara Croft's agenda. Running around with her dual-wielding pistols, she epitomised the very body of the 'Girl Power' that the Spice Girls had so successfully engineered two years earlier. Once you'd got bored of constantly manipulating Lara so that the camera would zoom in and focus on her amply pointed chest – we all did this, right? – you could simply focus on the gameplay, rolling around like a lunatic, gunning down wolves like an extra from a John Woo film and running like hell when you encountered that terrifying T-rex. With its atmospheric music, strong characters and impressive cut-scenes, it should come as no surprise to learn that Gard's influences had come from the film world, with the works of John Woo being particularly inspiring.

"I'd just seen *Hard Boiled* and I wanted to get that in because I was so excited about the film," continues Gard on that original transatlantic call we had with him. "I wanted to have that kind of dual-pistol insanity going on, with leaping and shooting and stuff. Obviously it was quite a long way off from that in the end, but that was what was pushing the action forward."

The original *Tomb Raider* became an absolutely huge success for Core Design and an impressive achievement, especially considering the team's inexperience in making 3D games. Shifting huge numbers on all formats – particularly Sony's PlayStation, where it fit perfectly with the mature image cultivated by Sony – it wasn't long before a sequel was announced, and unfortunately for Sega, the poor old Saturn didn't even get a look in.

"We wanted to sell 35,000 copies to make money. The first order was for 300,000"

"There was no question," begins Heath-Smith when we asked him if Sony chased the *Tomb Raider* sequels because it was such a perfect fit for the PlayStation brand. "Sony has gone on record to say that *Tomb Raider* was a cornerstone product to show off what the PlayStation could do. It came about from the success of the first game, the fact that we'd put it out first on the Sega Saturn and Sony were really keen. They approached us and asked if we would be interested [in single-format exclusivity] and we said okay and ended up making a deal that made a lot of sense for all of us. It was phenomenal because it not only sold hardware for them but also sold software for us."

While Core Design buckled down and started planning out Lara's next game, the rest of the world was going absolutely mad for the pony-tailed adventurer. By the time *Tomb Raider II* was released, Lara mania was in full swing. She was appearing on the cover of non-gaming magazines – *The Face* was a particularly memorable example – made headlines on the front cover of *The Times* and, amazingly, she even found time to start a thankfully short-lived pop career. Irish rock superstars U2 contacted Eidos in early 1997, stating that they were keen for Lara to feature in the upcoming PopMart Tour. She made a guest appearance during the tour, with Core creating specific footage to be shown on the 7,000-square-foot video screen.

Perhaps the most fascinating thing about the rise of Lara, particularly when you look at how carefully she's marketed as a brand today, is that her cyber celebrity status wasn't deliberately orchestrated by Eidos or Core Design at all, effectively snow-balling into a global behemoth all by itself.

"If I'm totally honest, that was kind of self-perpetuating," reveals Heath-Smith about Lara's increasing worldwide appeal. "You've got to remember that this was the first major female character in a videogame, so we kind of kept it all under wraps for quite a while because we were just so nervous about the response we were going to get. I remember some press coming to see us and they were looking at some of the other projects we had in the company at the time and we said to them: 'Come and have a quick look at this and see what you think.' They were all like: 'Wow, that's awesome. We need to write about it,' to which we simply said: 'No, you can't.' [laughs] I think what happened was that once this news broke that there was this female character there was this ground swell from all media, and it wasn't just the videogames press. We got blamed for David James losing goals at the England game because he was up all night playing *Tomb Raider*, she was on the front page of *The Face* magazine – she just kind of self-perpetuated. I'd love to say that it was a really dynamic PR machine that kicked into gear, but it really wasn't like that at all."

"To be honest it was all just lucky timing," reaffirms Gard when we recently quizzed him about her meteoric rise to cyber-stardom. "Lara was an unusually strong heroine in one of the first ever third-person games. Because that space was pretty much untrodden by anyone we had the opportunity to do a lot of 'firsts' and that made [*Tomb Raider*] very memorable."

Regardless of how Lara rose to celebrity status, she was now big news. So big, in fact, that she even had a live counterpart to represent her at various shows and press events. While Core Design and Eidos hadn't been behind Lara's meteoric rise, they had come up with the idea to create a real-life Lara – something that still exists today – to act as a spokeswoman for all new games.

"That all came about from going to the big CES show in America," recalls Heath-Smith. "We did a couple of things there, including a digital animation of Lara, where we devised this really clever motion capture stuff. She was on a screen and we were using a camera so that if you walked past she would actually



The Croft Phenomenon

Given how popular the games and Lara became in a relatively short space of time, and because the media took Ms Croft to be the ideal ambassador for the edgy new image that gaming was getting thanks to Sony and its PlayStation, the marketing men were quick to capitalise on the popularity of *Tomb Raider*. Since leaping onto our screens back in 1995, on top of the requisite T-shirts, socks and action figures, Lara has appeared in two big-budget movies, a 50-part comic book series by Top Cow Productions, and a series of novellas published by Ballantine Books. She was also immortalised on the cover of the culture, music and fashion mag *The Face*, helping cement her status as a true media icon, became the face of Lucozade, appeared in an animated series appearing on the subscription-based gaming portal GameTap, and lent her face to four white-knuckle theme park rides – three of which, though, no longer have any *Tomb Raider* association. Still, how many videogame characters since Lara can boast anything like that level of success and celebrity?

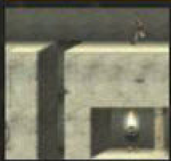
The Adventures Of Lara Croft

Tomb Raider: Curse Of The Sword 2001



A far more accomplished Game Boy follow-up that features excellent visuals, a nice blend of exploration and action and some intriguing puzzles. It's still simple stuff, but nevertheless works a treat.

Tomb Raider Episode 1: The Eye Of Osiris 2002



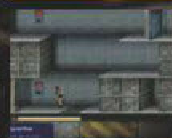
This was a simplistic platformer created for Sky Gamestar. There are a total of ten levels to explore but tricky controls mean that it's fairly hard to finish.

Tomb Raider: The Prophecy 2002



Although it features excellent visuals and plenty of variety, Lara's first GBA outing isn't really that memorable. Little wonder, then, that no other adventures appeared on the platform.

Tomb Raider Episode 2: The Shadow Falls 2003



The follow-up to *Eye Of Osiris* is more of the same, but now has Lara battling her way through a huge warehouse, *Impossible Mission*-style. Again, controlling it with a TV remote lets it down.

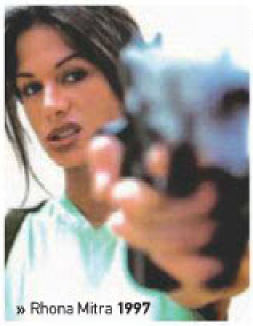
Tomb Raider Episode 3: Armageddon 2003



Armageddon changes the concept of the original two games by having you finish the final stage in a tight time limit. It's an otherwise perfect time-waster that suffers like the other games.



» Vanessa Demouy **1997**



» Rhona Mitra **1997**



» Nell McAndrew **1998**



» Lara Weller **1999**



» Lucy Clarkson **2000**



» Ellen Roche **2001**



» Jill de Jong **2002**



» Karima Adebibe **2006**

THE GIRLS BEHIND LARA

The first model was Vanessa Demouy, who portrayed Lara from 1996 to mid-1997. Rhona Mitra – who's arguably had the most impressive career post-Lara – carried on the torch to 1998 and so it went on, with Eidos changing the model to usually tie in with the release of a new game – although Nell McAndrew was fired after appearing in *Playboy*, which used Lara Croft without Eidos's permission. The current Lara is Alison Carroll, a gymnast and model who, like Lara stand-ins before her, has had intensive training in order to better understand the role. The impressive number of models that have portrayed her over the years meant that Lara was entered in the *Guinness Book Of Records* for the 'Most official real-life stand-ins'. Over the years costumes have changed to match Lara's latest look, and Nell McAndrew's costume was even donated to UNICEF for a charity auction.



» Alison Carroll **2008**

WHAT THE INDUSTRY THINKS



David Wilson
Head of Sony UK PR

Why was *Tomb Raider* so important for Sony in the PlayStation era?
The market was dominated by Sega and Nintendo, but PlayStation carved its own niche by being, frankly, cooler. It appealed to an older demographic. One of the initial ways it did this was by conscientiously not having a 'mascot'. Sega had Sonic, Nintendo had Mario. Jonathan Ross once made a comment about 'Nintendo Game Boy, Sony Walkman', which seemed fairly apposite. When a mascot finally appeared, it was a different kind – not something that could be perceived as 'childish' but a pneumatic female superstar who was cool enough to feature on the cover of the contemporary style bible *The Face*.

Why does she remain such an iconic character?
Lara Croft was very much of her time – and that's why she maintains cult status. She was hugely popular among the male gamers, but she also crossed over with an appeal to female gamers as well. This may sound naive in hindsight, but Lara rose to popularity in the era of the Spice Girls and Girl Power [as] a girl who was smart, powerful and sassy and more than a match for her male adversaries. She was empowering and also a rarity in videogames, where the hero predictably tended toward the musclebound meathead. Her legacy is possibly not just more female leads in games but also more varied depictions of the male lead.



Simon Pick
Senior software engineer, Electronic Arts

What impact did the first *Tomb Raider* game have on you?
I was annoyed that it was so good! We released *Die Hard Trilogy* at around the same time and I remember standing in the Virgin Megastore on Oxford Street watching a kid playing it and thinking: 'Damn! Why does it have to be so good? No one is going to buy our game now.' On *Die Hard Trilogy* we struggled to create 3D enemies – I was convinced that it was impossible to produce a fully skinned character and keep the frame rate reasonable. Lara proved me completely wrong.

What do you think of Lara Croft as a character?
She proved that you could create a large 3D character that was engaging. Before Lara, game characters were all tiny random characters with no personality. There was a connection with the player that no previous game character had. A few years back I was hiring animators and modellers for a new game, when in walked Lara Croft – ponytail, small round glasses, backpack, khaki pants, the works. It would have been a genius interview technique, had I not been miffed that *Tomb Raider* stole some of our *Die Hard Trilogy* sales! I hope her efforts paid off with a more reasonable interviewer.

Tomb Raider: The Angel Of Darkness 2003



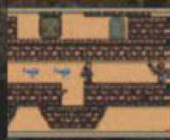
■ Missing numerous deadlines, Lara's PS2 outing felt outdated as soon as it was released. Riddled with bugs, it has some strong ideas but it just feels like old hat. It was Core Design's last *Tomb Raider*.

Tomb Raider Episode 4: Temple Of Anubis 2003



■ Lara's fourth outing on Sky's Digibox sticks to the same tried and tested formula as before, with the same number of levels and same gameplay. Needless to say, it was beginning to get tiring.

Tomb Raider: The Osiris Codex 2003



■ Lara's first mobile phone game is surprisingly fun. It's a 2D platformer with plenty of run-and-gun elements and the odd puzzle to solve. Solid and slick, it's well worth investigating.

Tomb Raider: Quest For Cinnabar 2004

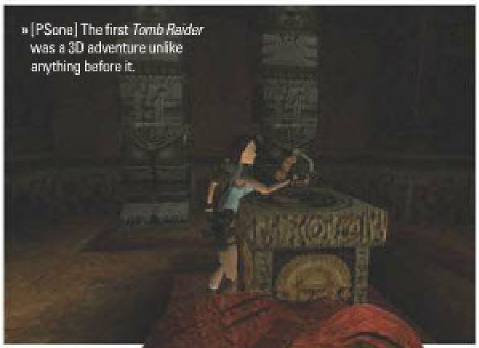


■ This is the second episode of Lara's mobile adventures and it is pretty much business as usual. Lara is now looking for a new relic, but otherwise it features the same solid platforming as before.

Tomb Raider: Elixir Of Life 2005



■ Lara's final mobile adventure was a fitting send-off, easily building up what had happened in the previous two games. It was a little more polished visually and a mite tougher, but still highly enjoyable.



» [PSone] The first *Tomb Raider* was a 3D adventure unlike anything before it.



talk to you. It was quite cool at the time but we felt that you needed something more. At the same time Eidos was promoting other games and it just made sense that we had a Lara lookalike who could come out on stage and do photos."

It was now approaching the end of 1998, and *Tomb Raider II* was gearing up for release. While sticking to the proven template of the original game, Core Design nevertheless brought plenty of new additions to the core gameplay, some of which split the original game's fan base. The globe-trotting aspects of the original game remained, but Lara was now able to use vehicles – something that has continued with various degrees of success – on certain levels, and there were far more human opponents to defeat. Where *Tomb Raider* instantly recaptured the spirit of the *Indiana Jones* films, its sequel was a more modern affair, taking place on the waterways of Venice and even an oil rig in the middle of the Atlantic. Some fans voiced their

"Fans began to question whether a year was enough to make a new game"

concerns about the new modern direction that Lara and the franchise was heading in, but the sequel was still a huge success for both Core and Sony, greatly outselling the original and ensuring that Core Design would be in charge of getting another game out in time for the lucrative Christmas season again.

Lara was still enjoying huge success as Core began working on part three, but the cracks of working to such a strict schedule were beginning to show. Early previews of *Tomb Raider III*, while generally positive, were beginning to question whether a year was enough time to work on a completely new game. Granted, Lara herself would get many new abilities – monkey swinging being by far the most useful – but, for many, it didn't seem enough.

Hot off her stage appearance with U2 on their PopMart Tour, Lara launched a singing career; or rather, Rhona Mitra launched a singing career using the Lara Croft name. Produced by the Eurythmics' Dave Stewart, the album *Come Alive* was an unbelievably cheesy affair consisting of amazingly poor Europop tunes that did little to enhance Lara's image as a globe-trotting adventurer. Unfortunately for Rhona, debut single *Getting Naked* was a less than stellar release, causing the one-time model to give up her career and head to Hollywood, where she has since carved a decent career.

It was during the release of the third *Tomb Raider* game that rumblings first began about a Lara Croft movie, although it would be several years later that the eventual film would come along. It was all a blur for Lara, however, and it was becoming increasingly obvious that Core, too, was beginning to run out of creative ideas for the franchise. Lara had always been depicted as a sexy heroine – much to Gard's chagrin, who left after being unhappy with the promotional direction that his creation was heading in – but by the arrival of *The Last Revelation* the focus was starting to be more on Lara than it was her actual adventures. One famous advert featured a girl wearing Lara's familiar crop top and shorts as her boyfriend smugly lay in bed behind her, while the videogames press was spending just as much time talking about her latest outfits as it did about actual gameplay. It looked like the feisty adventurer was getting out of control, and she was becoming in danger of sinking what had started off as a thoroughly enjoyable franchise.

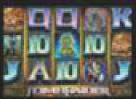
"All franchises tend to go through ups and downs as they try to reinvent themselves and as different people take charge of it," admits Gard when we asked him if he felt like some of Core's later *Tomb Raider* games began to lose their way. "I remember consistently getting into a lot of trouble and fighting over the marketing campaigns for the original *Tomb Raider*, but at the end of the day everyone has a different interpretation of the character, so things are inevitably going to get patchy as things progress."

"That's certainly something of a dilemma," admits Heath-Smith when we put the same question to him. "Is Lara bigger than the actual games or is the game bigger than Lara? If Lara is in a bad game does that end up damaging Lara as a character? My own view now is that she's probably far bigger than the actual games. Although I do think that if it's a bad game it doesn't really matter what character you have in it. I think the movie obviously had a big impact on that because we personally didn't do a game of the movie in case the movie ended up being bad."

The late Nineties passed quickly for both Lara and Core, and while she remained in the public eye – her Larazade adverts were everywhere at one point – the franchise was turning into the very definition of diminishing returns. The games were still proving popular, but gamers were becoming increasingly disillusioned with Lara's adventures, especially when titles like *The Last Revelation* and *Chronicles* still saw her being controlled with all the ugly finesse of a Tesco trolley with a broken wheel. Core certainly tried to shake things up – *The Last Revelation* was the first

The Adventures Of Lara Croft

Lara Croft: Tomb Raider 2005



■ This was Lara's very first video slots outing by Microgaming. The standard spinning reel action is punctuated by occasional mini-games and it makes for an interesting Lara Croft spin-off.

Tomb Raider: The Reckoning 2006



■ Another side-on quest for Lara that played like a cross between the Game Boy Color titles and the later Sky Digital games that were released. It was available live in Canada via Bell ExpressVu.

Tomb Raider iDVD Game 2006



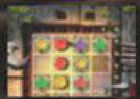
■ Utilising *Angel Of Darkness* footage because *Legend* was still in development, this was an interesting attempt to capture the casual market by splicing footage of the PC version with *Dragon's Lair*-style controls.

Tomb Raider: Legend 2006



■ Crystal Dynamics breathed new life into Lara thanks to solid combat mechanics, clever use of QTE, and a solid balance between adventuring and exploring. An excellent reboot of the franchise.

Lara Croft Tomb Raider: Puzzle Paradox 2006



■ Based on elements from *Legend*, *Puzzle Paradox* is a solid little mobile release that borrows from Gremlin's *Deflector* and *Sudoku*. Nothing earth-shattering, but good fun all the same.

Lara Croft's Party Poker 2006



■ This is nothing more than poker with Lara's name attached. You'll battle a selection of Eidos characters – including Gex and Kain – before you get to take on the mad card skills of Lara herself.

"Something was going to have to give. That something was Angel Of Darkness"

time that you could control Lara as a young girl and *Chronicles* depicted Lara's supposed death and was told in the style of flashbacks – but it was becoming increasingly obvious that something was going to have to give. That something was *Tomb Raider: The Angel Of Darkness*, but before Lara's sixth videogame arrived she was busy starring in her first feature film.

Ever since rumours began circulating about a Lara Croft movie in 1998, it was hard to imagine anyone else other than Angelina Jolie starring as the heroine. *Lara Croft: Tomb Raider* was released to commercial – if not critical – success in 2001 and starred Jolie as the famous archaeologist, her estranged father Jon Voight as her on-screen father, and Daniel Craig as nemesis Alex West. Despite a largely nonsensical plot, *Lara Croft: Tomb Raider* turned into an enjoyable movie experience, with a strong turn by Jolie and a very commendable box office. In fact, Lara's first film outing not only became one of Paramount's most profitable openings at the time, but is easily the most successful videogame to film adaptation, with its $48.2 million opening easily eclipsing the previous record of $30 million that had been achieved by *Pokémon: The First Movie*.



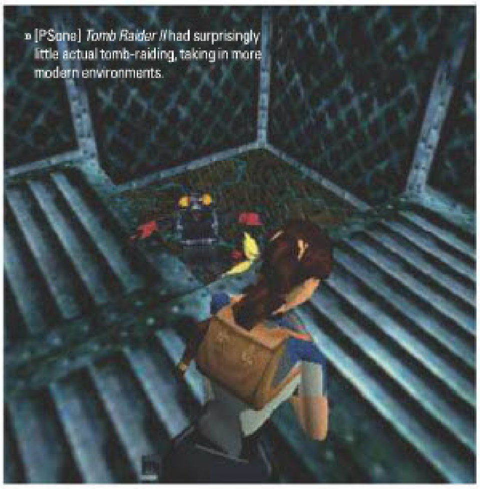
After grossing over $270 million from an original budget of $115 million, a sequel duly appeared in 2003 dubbed *Lara Croft Tomb Raider: The Cradle Of Life*. Sadly, it was even more poorly received critically than the first film and, despite the addition of action maestro Jan de Bont at the helm, didn't perform anywhere near as successfully as the original film. It still made a $30 million profit, but while Eidos is keen to make a third movie – the latest rumour is a prequel starring Megan Fox in the lead role – nothing else is confirmed.

"The first film was all right but the second one completely lost touch with the character," explained Gard about seeing his creation on the silver screen.

Eidos was far happier however, with Heath-Smith being particularly pleased about how the movies turned out. "We had a lot of creative control," he reveals about the deal with Paramount Pictures. "I was executive producer on both films and one of the conditions was that we had veto over script, actors and actresses and exactly how they would portray Lara. At the end of the day, Lara was our icon and what we didn't want was a movie damaging Lara. I personally had a lot of involvement, from script to directors to cast."

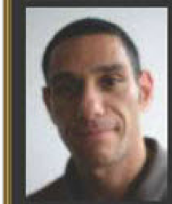
Although Heath-Smith was able to help guide Lara's big-screen outings, the same magic was not sprinkled on Core's last game. Constantly delayed and finally shipping with numerous bugs, *Tomb Raider: The Angel Of Darkness* was a massive disappointment for both Core and Eidos, receiving average scores from all corners of the gaming community and causing Eidos to have a massive rethink about the franchise's future.

"I listened to far too many people and there was a huge amount of pressure put on us," begins Heath-Smith when asked about Lara's darkest videogame moment. "We actually let the marketing people get involved, which was our biggest mistake. We wanted to do an updated version of the original *Tomb Raider*, but they were like: 'No, you can't do that. We need to bring her into a new age and make her far more interactive.' Sadly we were just too over-engineered and it was actually thought about too much. It was a shame because the work that was put into that game I can't even begin to tell you. The man-hours in that game were huge, absolutely huge. The biggest problem with it was the controls. We just struggled and struggled with getting the controls right and trying to do so much with her. Again we just over-engineered it. We should have done what we did on the other five games and simply told them all to bugger off. Sadly the commercial



» [PSone] *Tomb Raider II* had surprisingly little actual tomb-raiding, taking in more modern environments.

WHAT THE INDUSTRY THINKS

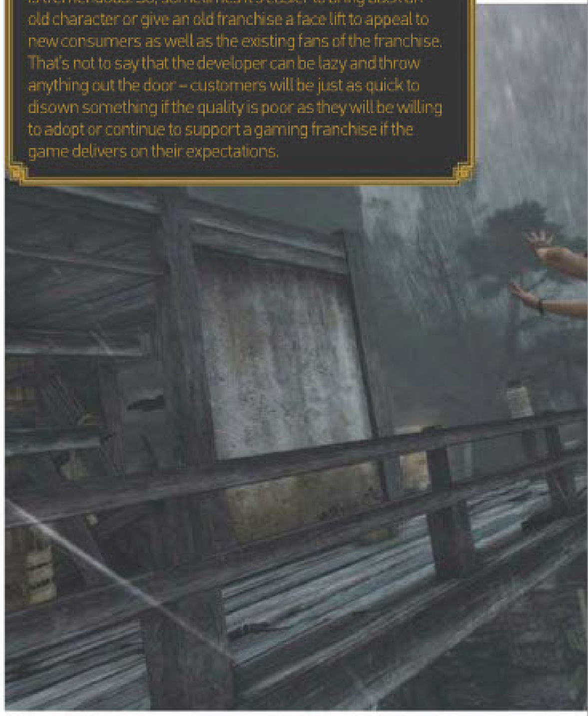


George Andreas
Design director, Rare

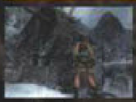
What was the first thing that hit you when you saw *Tomb Raider* for the first time?
How incredibly immersive the overall experience was at the time given the limitations of the hardware. Also, it wasn't really pandering to the other games of its era, it wasn't overtly cute, it wasn't about collecting lots of shiny objects and it wasn't about twitch skill gameplay – it was brave and bold and ultimately succeeded in introducing an original character to the world 'outside' of videogames.

What's your favourite *Tomb Raider*?
For me, the first one. Creating the first of any series is always the biggest creative and development challenge. Defining what that is and executing that to a high level that really resonates with people is no mean feat.

Why does Lara Croft remain so popular?
I guess you could ask the same question about some of the other high-profile videogame icons of the same era. Mario and Sonic also remain popular to name but two, regardless of what we may think about the quality of some of their outings over the years. Creating new IP is fast becoming a fading art as the financial risk developers and publishers face is tremendous. So, sometimes it's easier to bring back an old character or give an old franchise a face lift to appeal to new consumers as well as the existing fans of the franchise. That's not to say that the developer can be lazy and throw anything out the door – customers will be just as quick to disown something if the quality is poor as they will be willing to adopt or continue to support a gaming franchise if the game delivers on their expectations.



Tomb Raider Anniversary 2007



■ Taking over from Core Design, Crystal Dynamics revisited and expanded upon the original game. It's not quite as polished as *Legend*, but remains a fitting tribute to Lara's very first adventure, ably updated.

Tomb Raider: Secret Of The Sword 2008



■ *Secret Of The Sword* was a video slot machine that featured Lara performing *Tomb Raider*-themed tasks like shooting targets in the bonus rounds. Fans of the series unsurprisingly shouldn't go out of their way.

Tomb Raider Underworld 2008



■ Although Nathan Drake steals Lara's thunder a little, we really enjoyed *Underworld*. An interesting setting and improved mechanics meant another hit for both Eidos and Crystal Dynamics.

Tomb Raider Underworld: Beneath The Ashes 2008



■ Released exclusively on Xbox Live, the first piece of *Underworld* downloadable content featured an extended jaunt for Lara beneath Croft Manor. It's a decent if short addition to the series.

Tomb Raider Underworld: Lara's Shadow 2009

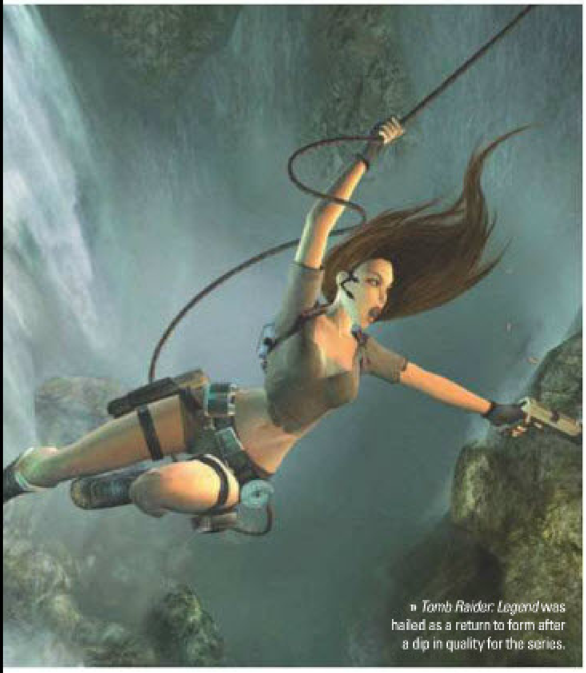


■ The second piece of DLC is far cleverer, allowing the player to control the Doppelganger that appears at the end of *Beneath The Ashes*. There's a greater emphasis on combat, but it's again a little too short.

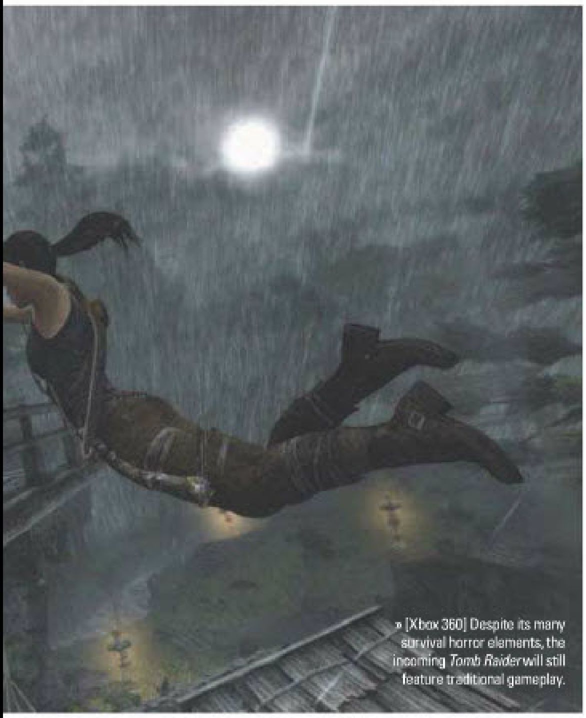
Lara Croft And The Guardian Of Light 2010



■ Lara's first co-op adventure is a cracking spin on the traditional twin-stick shooter and incorporates some fantastic two-player action in its surprisingly lengthy running time. A solid update that's worth downloading.



» *Tomb Raider: Legend* was hailed as a return to form after a dip in quality for the series.



» [Xbox 360] Despite its many survival horror elements, the incoming *Tomb Raider* will still feature traditional gameplay.

stakes that were around then were so huge that we didn't have a lot of choice."

Angel Of Darkness's performance at retail saw the shock announcement by Eidos that the next game in the series would be created by American developer Crystal Dynamics, which was best known for its *Legacy Of Kain* franchise. The news was met by howls of disgust from the fan base, but when *Tomb Raider: Legend* was released in 2006 it turned out to be a damned good reboot. Quick-time events were cleverly segued into the main gameplay and the addition of a new grappling hook proved more than a fancy gimmick, while the available puzzles were also of a very high standard. Lara was back on track, but Core Design had been hit hard by both the loss of its signature character and the Heath-Smith brothers, who departed to form Circle Studios and took a good 70 per cent of Core's staff with them. The company was unable to cope and what was left of it was sold off to Rebellion in 2006.

"To be really honest with you, it was time for a change," admits Heath-Smith about Crystal Dynamics taking over the franchise. "The team had been on that project for six games, which is too many, and it did need a shake-up. The sad part was that the shake-up was in America and at that time I had left, so there was nobody there fighting the corner. I thought it was really sad to lose a British icon to America, but to be fair they've done a really good job and Toby also got re-involved, which was very cool. It is sad, but who knows? Maybe one day we'll get the original team back, secure the game and make another one. That would be quite a headline, wouldn't it?"

After the success of *Tomb Raider: Legend*, Crystal Dynamics further stamped its authority on the franchise by revisiting the original game and implementing the back story changes that had begun in *Legend*. Interestingly, Core had also been working on a tenth anniversary edition of the game for the PSP, but disaster struck when Core revealed early screenshots in June 2006, only for Eidos to announce that it would be created by Crystal Dynamics the following week.

Tomb Raider Anniversary was finally released in 2007 and proved a fitting tribute to Lara's original adventure. It felt instantly familiar to anyone who had played the original classic, but also contained enough new elements to stop boredom from setting in for even those who had completed the original numerous times. It was followed in 2008 by *Tomb Raider: Underworld*, which was not only a grittier vehicle for Lara but also featured far more underwater action than in previous adventures. Fortunately Crystal Dynamics was more than up to the task, and the end result was another solid adventure that easily built on the building blocks that the developer had first created with *Legend*.

Next came *Lara Croft And The Guardian Of Light*, easily her most interesting-looking adventure yet. Released purely as a downloadable game with Crystal Dynamics once again at the helm, it introduces many new and interesting play mechanics. The most exciting is the addition of a second playable character called Totec, which greatly changes the core gameplay dynamics and also ensures that you can solve the game's many puzzles in a variety of different ways.

By far the most interesting Lara adventure however is the one that's recently been unveiled by Square Enix. Simply called *Tomb Raider* it's once again helmed by Crystal Dynamics, but now sports a radical change of direction for the franchise, due to the many survival horror elements it features. Effectively a reboot for the franchise, this new Lara is bruised and battered, must create make-shift weapons and scavenge around for items and food and marks an exciting change of direction for gaming's first lady.



With public awareness of Lara now stronger than it's ever been, we were keen to know why she's such an iconic figurehead. "I think it's mainly because no one has ever challenged her and created a female character in the same way," concludes Heath-Smith. "To be honest, bringing out a new female character in today's market is bloody difficult. I don't think it's impossible, but Lara is very much an icon of her time, just like James Bond is, and it's very hard to match that without mimicking it if you're not first to market."

A big thanks to **www.tombraiderchronicles.com** for its help

THE MAKING OF…

Tapper

WHO SAID BEER WON'T MAKE YOU SMARTER? IT MADE BUD WISER! RUBBISH JOKES ASIDE, KIM WILD PROPS UP A BAR OR TWO AS SCOTT MORRISON AND STEVE MEYER REVEAL HOW THEY CREATED A PUB CLASSIC THAT TRANSFORMED THE ARCADE'S FORTUNES

IN THE KNOW

- » **PUBLISHER:** MIDWAY
- » **DEVELOPER:** MARVIN GLASS ASSOCIATES
- » **RELEASED:** 1983
- » **SYSTEM:** ARCADE
- » **GENRE:** PLATFORM
- » **EXPECT TO PAY:** £100+



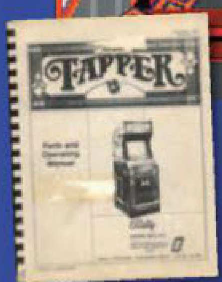
***Tapper* is one of those unique concepts that remains as addictive today as it was back in the Eighties when it was released in a market fuelled with alcohol. Starring you in the role of a bartender, it's your job to serve beers to the customers. Speed and accuracy are the rules of the land; miss a returned glass and it perilously drops to the floor, causing it to smash and lose you a life. Take too much time, and the punters will grab you and slide you across the bar. It's a tough job being barkeep, yet in *Tapper*, it couldn't be any more compelling.**

The game is the brainchild of Scott Morrison and Steve Meyer whose paths originated at Marvin Glass and Associates. "My father worked at Marvin Glass, a toy invention think tank. Around 1981 they decided to try their hand at video game concepts, originally to create working mock-ups that they could pitch to various manufacturers. It became apparent pretty quickly that the specialized nature of these projects required a dedicated staff. I was a year out of college and working in St. Louis when my dad called to see if I was interested in this new position. Since I was a big fan of video games and a cartoonist at heart, I jumped at the opportunity to interview," remembers Scott Morrison. Soon after joining the videogame sector, Scott met up with Steve Meyer and the pair had an instant connection. "Steve is one of the nicest guys on the planet, and we became close friends very quickly. That unspoken bond and our passionate work ethic made for a great creative team." It's a sentiment that Steve Meyer shares avidly. "We fed off each other and knew each other so well that we could say, 'This isn't working; try this,' and were able to push it through art, then go through with the programming. It's very unlike today, with 50-plus teams where you don't have the chemistry."

As part of their new job creating games for the arcade division, both men sat down and threw around a few ideas before coming up with the idea of having a bar where beer could be served. "We kicked around all sorts of concepts, including being the catcher rather than the thrower, but eventually we decided that being the man in charge of the beer was the way to go. I then went ahead and created some rough storyboards to depict basic game objectives and flow, which were



» [Arcade] They look friendly, but this is one mean crowd. Get those beers out pronto.



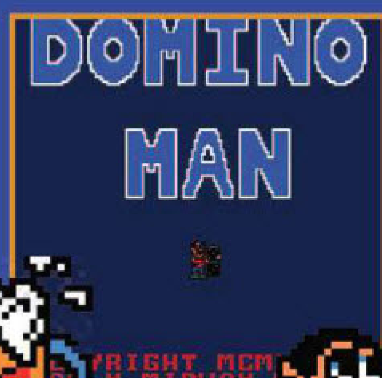
used to present to the Bally brass. Tom Neiman was their licensing guru, and he approached Budweiser to license their brand for a videogame designed to work in bars," says Scott Morrison. "To begin with we started with one bar," elaborates Steve Meyer. "I would program something, Scott would play a bit, find it was not quite there, and then discuss how to make it better. Then I said to Scott 'Can you draw a bartender in a bar with a mug?' So he did some artwork… I still wasn't sure about it. So I programmed sliding a beer down the bar and that looked more interesting. Now we added some customers and it was fun to see them catch the beer. I played around with the game mechanics until they had two bars, where you could hop between the two with the barkeep."

With Midway's interest piqued, it was time to flesh out the concept. Each bar had a distinct style and theme, the art design of which was envisaged by Scott Morrison. "The western theme was where we started, since that era connotes sliding mugs down a bar the most. That's what we pitched to secure the project, and the bartender's outfit was made to fit that setting. The sports bar was next, since that was our target location. I went with a more outdoorsy, tailgating look, mainly to make it really look different than the western bar. It allowed me to use some different colors than wood tones, and I was able to get a Budweiser blimp in there too. Next was the punk bar, which was pretty trendy at the time. All the clubs were switching from Disco to New Wave at the time, and I was a big fan of the new culture. I also thought that wacky punk caricatures would be more visually interesting than disco dudes or generic

KEEP ON TAPPING

If the barkeep seems familiar to you then it might be because he appeared in arcade title *Domino Man*. "He was only one 32x32 sprite big, so detail was difficult. When it came time to create Tapper, I decided to bring Domino Man over to the new game," says Scott Morrison. "It was fun for me because he was a lot bigger in *Tapper*, which allowed me to give him a wider range of emotions and reactions. Domino Man also made an appearance as a lumberjack in *Timber*, and as a pimped-out wrestling manager in *Battle Royale* for the TurboGrafx 16 home console." Steve Meyer says the main character was "modelled after the toy designer Mike Ferris, so it was easy to imagine him in the game. He was very happy to be featured in *Tapper*. Unfortunately, Mike Ferris passed away a few years ago," recalls Steve Meyer with sadness.

As well as being the star of an arcade classic, Mike Ferris was a talented artist and designer who taught Scott Morrison how to use the art tools. His presence in *Tapper* means that, at least in some form, Mike Ferris will live on forever.



THE MAKING OF…

TAPPER



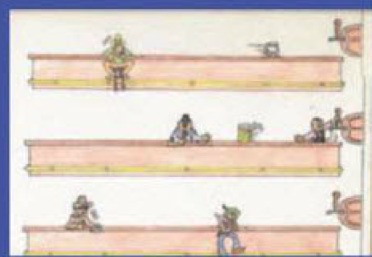


ALCOHOL-FREE ZONE

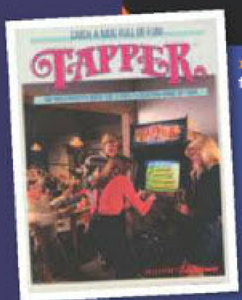
Once the popularity of *Tapper* was assured among beer-guzzling adults, it was only a matter of time before an alcohol-free version emerged. "At first it was a street piece but then Midway wanted to put it in the arcades so asked us to do a root beer version. We changed the cabinet decoration and Scott did new graphics," says Steve Meyer. Scott Morrison explains a little further: "I reworked the backgrounds with all new colours and logos, and gave Domino Man a new soda-jerk-themed outfit, complete with a little white hat. I remember the red-and-white-striped shirt gave me a lot of trouble when animating, since the stripes had to move without looking choppy." But was the game difficulty altered for the younger market? "Nah," laughs Steve Meyer. "The kids were better at it than everyone else.".



» [Arcade] "It's a great sobriety test to follow the right can," says Scott Morrison.



» The early concept artwork used to pitch the concept of *Tapper* to Midway.



dancers. Once we went punk it was pretty easy to make the bar itself look disheveled and half-destroyed. The space bar was meant to be a cool surprise to players who were good enough to reach that advanced level. We hoped that players would spread the word and entice others to get good enough to reach it. The aliens were fun to do. I think I made each one with an exaggerated facial feature – huge eyes, all mouth – and there was a little tiny one who walked on the bar. That one gave Steve a challenge because his sprites had to have different coordinate offsets than the rest of the patrons, but that was the great thing about working with Steve. Those little touches helped make the game memorable."

In order to create such distinctive artwork and sprites, Scott Morrison would use customized art-tool software with a rather impressive controller that had been created by Rick Hicaro. It was built from a *Gorf* handle with four phone buttons and a trigger, with an Atari joystick assembled on the top. "The tool sets were programmed by Elaine Hodgson (who is now my current boss and the CEO at Incredible Technologies), and it worked on Midway's MCR II three-board system. The sprite tool gave me on-screen menus of the color palettes I could select from (16 sets of 16 colors), and the ability to flip, flop and rotate the 32x32 'hi-res' image. I could also sequence and assemble a few sprites to see how they looked when animating. The background art was half the resolution of the sprites, and everything had to be made from a set of 256 eight-by-eight blocks. I used a giant sheet of grid paper to draw the backgrounds and map out the various pixel patterns. It was a real trick to keep objects and images on block boundaries and figure out ways to re-purpose as many blocks as possible to get a lot of variety. Once I had my list of 256 blocks defined, I used the background art program to create and store each individual block. Once they were made they were burned to EPROMs, so I could sequence through them and build the actual background scene. If I missed a block or got something wrong, I would have to re-burn new EPROMs, so it was a tricky process." Regarding the *Gorf* controller, Scott Morrison recalls: "The wires were long enough for me to sit way back, with my feet up on the desk, if I wanted to. It was an awesome system."

The gameplay mechanics were the area that Steve Meyer focussed on in order to flesh *Tapper* out into more of a challenge. "It became a resource management problem and one of the first was 'is this enough to base a game on?' So I made it more difficult and upped it to demonstrate the progress. But I would still ask, 'Is there enough content? What about if a customer left a tip? It became the Greek factor – you had to decide if you had enough time to pick it up. We changed the characters for each level but this still didn't feel like enough, so we introduced the idea of the bartender shaking up cans of beer (all but one) and you had to keep an eye on the can or get sprayed with the beer. Before it was implemented, we had to see if it would be





» [Arcade] "Grabbing a tip was the trigger device that would spawn the dancing girls," explains Scott Morrison.

DEVELOPER HIGHLIGHTS

DOMINO MAN (PICTURED)
SYSTEM: ARCADE
YEAR: 1983

TIMBER
SYSTEM: ARCADE
YEAR: 1984

BATTLE ROYALE
SYSTEM: TURBOGRAFX 16
YEAR: 1989



> "We went into a room with beer and sodas and spent hours burping into a mic" SCOTT MORRISON

fun and it worked and it was nice to see people enjoying the game." The difficulty was the hardest area to get right and required plenty of tweaking. If you've ever played a level and wondered why it varied in difficulty, this was down to a deliberate programming technique. "I spent a lot of time playing with the customers, how fast you could serve beer to them and get it back. I had to play carefully with the difficulty when watching people play, and when some did better I had to add more difficulty. I also had to make it easy for people to play while holding a beer. I ended up with a system with a window and timeframe – if you were good at serving beer you could get patrons out quickly, but if not quick enough, they wouldn't get out for a while."

What made *Tapper* unique was the controller the game shipped with. Complete with a lever resembling a beer pump, it made serving alcohol not too dissimilar to the real occupation. "Bally Midway had a model shop – they had all the controller mechanisms. Midway manufactured those and they made a prototype version and got it right. It had a nice feel where it would spring right back which became essential so when you let it go, you would fling the beer. If you wanted to wait for the right time or want to throw them one, two, three at a time then you could do that. It gave you the chance to make a mistake and added a little bit of risk," remarks Steve Meyer.

One of the features that never made it into the final release was the inclusion of sound effects where each customer would burp upon consuming a beer. Needless to say, it was an idea that was better in theory than in its execution. "We were approached by Texas Instruments (I think it was TI, that was a long time ago) with a new audio chip that allowed for digitized sounds, and we thought that was really cool and cutting-edge," recalls Scott Morrison. "At one point, we went into a room with beer and sodas and spent a couple of hours burping into a microphone. When we installed the chip we tried a version that had the patrons burping after each beer they drank. It was pretty funny, but got really gross and irritating pretty quickly and we didn't think Bud would go for it. We tried to tone it down and use the burp sounds occasionally, but it didn't have the impact we wanted so we scrapped the idea."

Since the days of *Tapper*, both Meyer and Morrison have remained in the games industry, although they work in entirely different sectors. "Since 1987 I have been with Incredible Technologies, currently the largest manufacturer of coin-operated videogames. Early on, we decided to follow the path that *Tapper* began and focus on games for adults in street locations like bars and pubs. *Golden Tee Golf* is our biggest hit, which is celebrating its 21st year, an unprecedented feat," remarks Scott Morrison. Steve Meyer is at Firaxis as "director of software development, making games for all different systems, the most recent one being *Civilization Revolution*." Cheers guys… have a Bud on us.

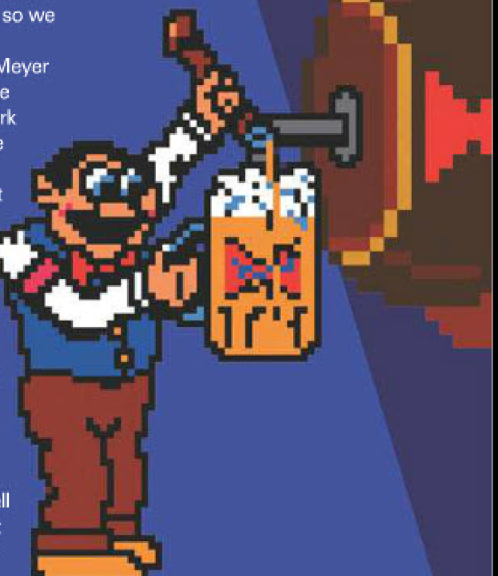




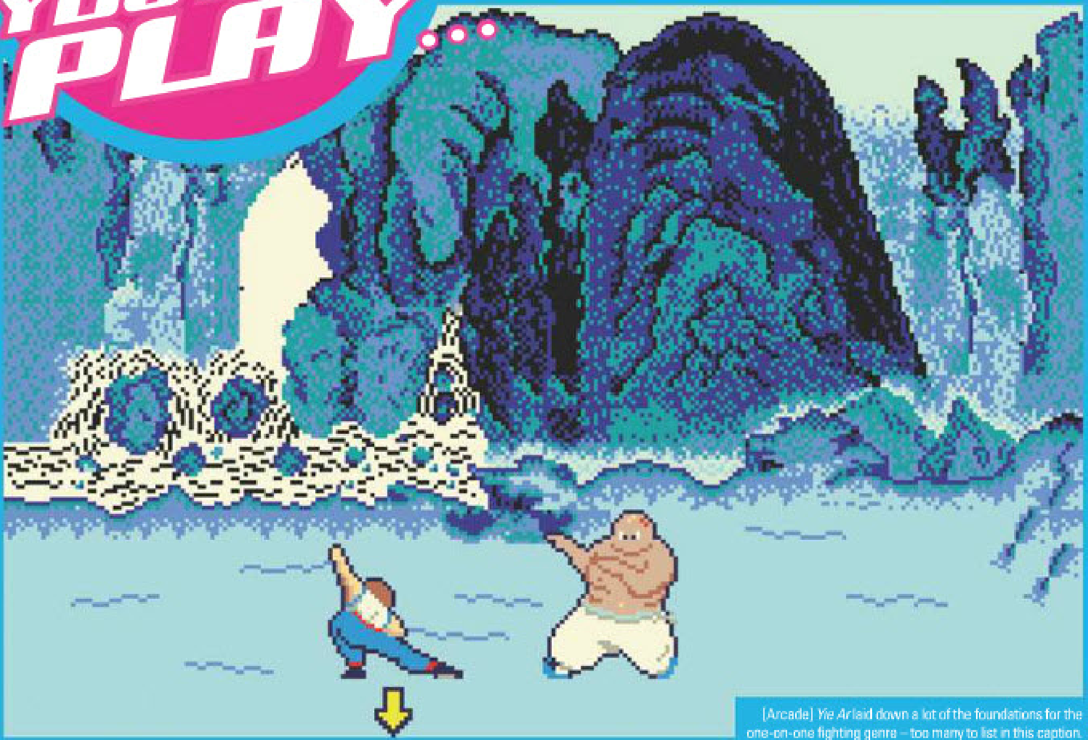
» Scott Morrison used this *Gorf* handle-powered controller to draw the in-game visuals for *Tapper*.



» [Arcade] There was also a Suntory-sponsored version that differed only in the background logo and colour of liquid.



WHY YOU MUST PLAY… YIE AR KUNG-FU



[Arcade] *Yie Ar* laid down a lot of the foundations for the one-on-one fighting genre – too many to list in this caption.



[Arcade] 'Yie Ar' translates as 'One Two', making the sequel *Yie Ar Kung-Fu Ar*.



[Arcade] *Yie Ar Kung-Fu* was re-released in 1997 on *Konami Antiques MSX Collection*.

OLDER THAN TREASURE MAPS BUT FAR LESS BROWN, YIE AR KUNG-FU IS STILL KONAMI'S BEST STAB AT THE BEAT-'EM-UP GENRE, SO SAYS STUART HUNT… THOUGH RAKUGA KIDS COMES PRETTY DARN CLOSE



IN THE KNOW

- **PUBLISHER:** KONAMI
- **DEVELOPER:** IN-HOUSE
- **FEATURED HARDWARE:** ARCADE
- **GENRE:** BEAT-'EM-UP
- **RELEASED:** 1985
- **EXPECT TO PAY:** £150-£250

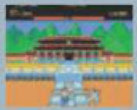
Thanks to *Yie Ar Kung-Fu*'s unique approach to its genre, it remains a great fighting game to play even today. At the time of its release, most fighting games were very simplistic, and often went for simulation over personality; a formula that would switch after the release of Capcom's seminal brawler, *Street Fighter II*. *Yie Ar Kung-Fu* was clearly ahead of its time and was undoubtedly an important milestone for the evolution of the fighting game.

Injecting itself with a heavy dose of variety, and boasting a unique art style that made its fighters resemble balloon animals, *Yie Ar Kung-Fu* effortlessly stood out from the more serious-looking fighters that it shared arcades with. In fact, there are many points of difference that separate *Yie Ar* from its peers, and even successive beat-'em-ups for that matter.

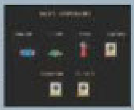
The first thing you may notice about *Yie Ar Kung-Fu* is that instead of a colourful roster of memorable and varied characters to choose from, the game forces you to play as just one… and a pretty forgettable one at that. Sporting a Beatles mop and Popeye attire, Oolong certainly wasn't the coolest-looking character to ever grace the fighting genre, but he did have a certain Jackie Chan appearance and charm about him. And Konami can be praised for blessing Oolong with a surprising number of moves – especially from just two buttons: punch and kick – by having attacks performed by stabbing at either fire button while simultaneously pressing the joystick in one of eight directions.

Second, *Yie Ar Kung-Fu* is split into two tournaments: the somewhat camp-sounding 'Hot Fighting' and what sounds like a BBC quiz in 'Masterhand', and both sit comfortably on the shoulders of unfair pugilism. All of Oolong's opponents, save for his first challenger – the blind cave salamander lookalike Buchu – are tooled up to the nines with weapons ranging from throwing stars and poles to nunchucks – and Buchu can even fly, although we can't really classify flight as a weapon – whereas poor old Oolong had just his feet and fists with which to floor his opponents. Another interesting fact about the enemies in the game is that most of their names relate to the signature weapon they carry, which means that throughout the competition you get to face off against people called

WHAT MAKES IT UNIQUE



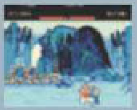
EIGHT-WAY COMBAT X 2
Yie Ar utilised an eight-way combat system, whereby pressing either punch or kick with a direction on the joystick would perform a move.



CHARACTER HEAVY!
Ironically, *Yie Ar* has a fulsome roster, all with wacky names and various cool-looking weapons, but you can't control any of them.



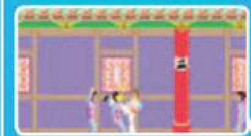
BLOCKING? WHAT'S THAT?
Fear does not exist in this dojo, does it? No, Sensei! Co-op does not exist in this dojo, does it? No, Sensei! You get the idea.



FIRM BUT FAIR
Thanks to the tiny hit boxes, you have to hit your opponent with pinpoint accuracy. While it makes the game a pig at first, once mastered it's a joy.

INFLUENCES

The games that influenced and have been influenced by **Yie Ar Kung-Fu**



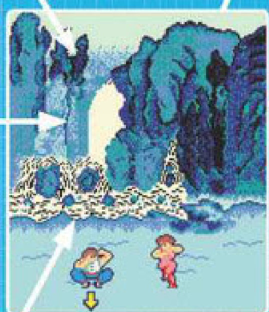
■ KUNG-FU MASTER
Yie Ar shared the same colourful pastel tones of Irem's classic, and some of the character designs look similar too.



■ KARATE CHAMP
Undeniably a strong influence for *Yie Ar Kung-Fu*, *Karate Champ* featured similar controls and a sedate point-based scoring system.

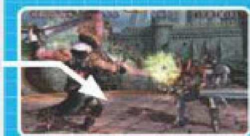


■ FIGHTING ROLLER
Possibly the earliest example of an 'fighting' game. Which, considering that it plays like a mixture of *DJ Boy* and *Road Rash*, always surprises us.

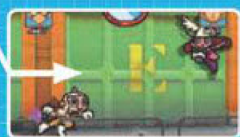




■ WAY OF THE EXPLODING FIST
It borrows much from *Karate Champ*, therefore *Way Of The Exploding Fist* shares quite a lot of similarities with *Yie Ar Kung-Fu*.



■ SOUL CALIBUR
Yie Ar Kung-Fu pioneered weapon-based fighting games, and *Soul Calibur* is up there with the very best in the modern day.



■ RAKUGA KIDS
Making the list by default, it's another good and under-appreciated 2D beat-'em-up from Konami, this time released for the N64.

"Yie Ar Kung-Fu stood out from its more serious-looking competition"

Pole, Chain, Fan and Sword… which is odd but slightly brilliant.

However, what bugs some people about *Yie Ar Kung-Fu* is its unforgiving combat. There is absolutely no blocking in the game, and coupling this with Oolong's overzealous-feeling jump – seemingly inspired by high-wire martial arts movies – and the infinitesimally small collision boxes that sit invisibly on his opponents makes for a very frantic and difficult game to master. However, you may notice that there is a very slight pause that occurs in the game whenever a successful hit is landed, and whether intentional or not, this offers a great moment for players to register where collisions are made and help them to master *Yie Ar*'s pernickety but highly rewarding combat system.

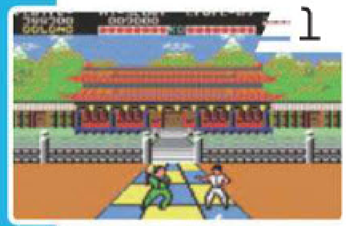
While the home computer versions of *Yie Ar Kung-Fu* – save for the MSX version – played things incredibly close to the arcade game, the console version, which was developed by Konami, featured new sprites, new characters including a brand new hero called Lee Young, and a few new moves too. This version was released on the NES, Game Boy Color, and later on the PlayStation and Saturn via *Konami Antiques MSX Collection*.

The final game in the *Yie Ar Kung-Fu* series is *Yie Ar Kung-Fu II: The Emperor Yie-Gah*, and was a continuation of Konami's home port rather than the original arcade game. It ousted Oolong again for Lee Young but was notable for adding a two-player mode that allowed players to control one of the first three boss fighters. It also featured these weird preliminary side-scrolling bits that found Lee fighting his way through three screens of angry tiny ninja babies before coming up against the main bosses, and threw in power-ups that fell from the ceiling and offered additional extra health and temporary invincibility. Oddly, the game was never released on the NES, and instead only found its way to 8-bit microcomputers, with the MSX port widely regarded as being the best version. The sequel also later appeared on the Saturn and PlayStation on *Konami Antiques MSX Collection Vol 2*.

So there you have it: a very brief history of *Yie Ar Kung-Fu* in two pages. We guess all that's left to say is Oolong and goodbye [Good grief – ED].

THE CONVERSIONS

How the various versions compare



1 COMMODORE 64

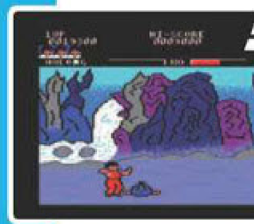
BEST VERSION

One of the best arcade ports available on the C64, this version, with incredible visuals, fantastic sound, and slick gameplay, ticks every box. Our only minor gripe is that the character sprites feel less cartoony than the CPC port, but that's us being picky jerks.



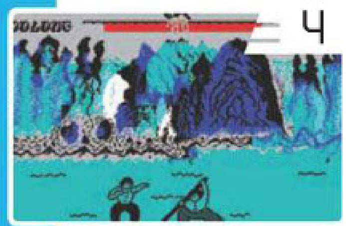
2 NES

The home console versions of *Yie Ar Kung-Fu* were handled by Konami and differ from the Imagine versions. It features similar gameplay but adds new fighters, a new hero and a few new moves. It's a good version but doesn't feel enough like the arcade game for our liking.



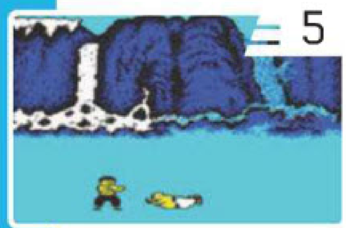
3 AMSTRAD CPC

Arnold turns out a pretty good effort. The game benefits immensely from the machine's love of bright, colourful visuals, giving it an authentic look compared to the arcade. And the gameplay, while a bit on the sluggish side, is no game breaker. Completists will moan that this version is missing a fighter, however.



4 ZX SPECTRUM

While colour clash rarely rears its head in this game as the tiny fighters are firmly plonked at the base of the screen, the gameplay moves slowly and the fighters do this odd shake whenever they're hit, which can be distracting. Not a great port, to be honest.

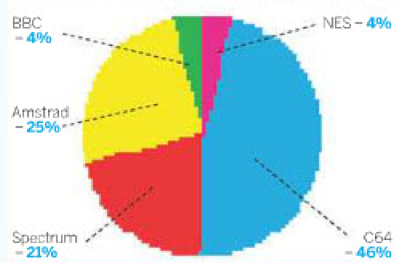


5 BBC MICRO

WORST VERSION

This version doesn't look bad but the combat feels flighty, with the unforgiving collision detection that the arcade is famous for rendered non-existent. Most fights can be won by furiously bashing buttons, which certainly isn't what *Yie Ar Kung-Fu* is all about.

FORUM OPINION



"Whilst I love the Speccy conversion, I recall playing the Beeb conversion and being jealous of the colour. Great stuff." – **neuromancer**

"C64 for me. Great graphics and over-the-top sounds, a diverse range of fighters, and in a single load." – **TheDude18**



FROM THE ARCHIVES

RETRO GAMER DIGS UP THE FILES OF THE CLASSIC COMPANIES OF OLD

Dynamix

From its early days trying to make it as a game developer in a very new industry to its booming era as part of the Sierra family, Craig Ritchie takes us through the history of simulations giant Dynamix

A career in computer gaming isn't the first thing that springs to mind when someone tells you they're studying a Bachelor of Science in Biology, but Jeff Tunnell was never one to shy away from breaking the mould. "I took a lot of computer classes as I was getting my BS," he explains. "When the Apple computer came out, I couldn't resist. $2,500 bought me an Apple II, a green screen monitor and a disk drive. That was a smoking hot system!"

Once Tunnell had the Apple, he wasted no time setting about applying his programming knowledge to writing games. He was instantly hooked, fascinated by the machine and its potential, and a few months later the entrepreneurial Tunnell founded ComputerTutor. At the time, all software was sold in computer shops and no one had launched a store selling only software. Tunnell changed this. "It was the first software-only store in America," he recalls. "I know this because the bigger software-only store that claimed to be the first, and got credit for it, had a later founding date than ComputerTutor."

Tunnell maintained his interest in games all the while, and continued programming his own game while running ComputerTutor. He then started another business called Software Entertainment Company (SEC) as his attempt to make his first foray into the gaming world. It was just at this time that a young Chris Cole and two of his friends arrived on the scene.

"Paul Bowman, Clark Fagot and myself were all about 14 years old," recalls Cole. "My family had just bought an Apple II+ and Clark's family also had an Apple II+. As for Paul, well... he just hung out with us a bunch. About that time this new computer shop, The ComputerTutor, opened up. As a promotion, Jeff Tunnell had a contest that would give the customer with the highest score on a brand new game (*Snake Bite*) $100 in software. To us $100 was a *lot* of money, especially considering it was 1982. We all gave it a shot and lo and behold Clark won! So like a kid in a candy store, he chose $100 worth of computer games. We were in heaven."

"However, not all was completely rosy," continues Cole. "Apparently Jeff, who himself was only around 24 years old, did not completely trust us. He sort of infamously called us 'The Three Hoodlums'. Apparently he thought we were untrustworthy as we'd often come into the store and mull around for hours looking at the new games. He was certain we were shoplifting, but in actuality, we had no money and were really just salivating over the games we'd never be able to play. Anyhow, he got to know us a bit and finally started to understand that we loved games but just couldn't afford to buy a bad one. That's when the famous dare was made! I had just spent, or, rather, wasted my money on a particularly bad game and wasn't too happy about it. We were all hanging out at Jeff's store and I, being the most brash of the bunch, declared "I could write a better game in two weeks!" Jeff then replied, 'If you think you can, then do it… and I'll publish it!'"

INSTANT EXPERT

Founded by Jeff Tunnell and Damon Slye, Dynamix operated between 1984 and 2001.

Dynamix was one of the earliest true development studios in an era characterised by home coders and hobbyists.

It was among the leading programmers of simulation games through the 1980s and 1990s.

Slye and co put together the award-winning *Arcticfox*, one of the launch titles for the Amiga.

Dynamix had strong ties with Electronic Arts and later Activision before being bought by Sierra in 1990.

Dynamix only ever developed two movie tie-in games: *Ghostbusters II* and *Die Hard*, both of which were licensed by Activision at the time.

Sierra's Mark Crowe relocated to the company and *Space Quest 5* was developed by Dynamix.

The company became forerunners in large-scale multiplayer combat games, with *Tribes 2* capable of seeing 128 players battling it out.

All in all, Dynamix released close on 100 unique games and expansion packs.

Dynamix was eventually shut down by Sierra, whose parent company was tied to what was then the largest corporate fraud scandal in history.



SKYFOX



“Ken Williams was impressed that we shipped seven games in one year”

SLYE RECALLS HOW DYNAMIX GOT SIERRA'S ATTENTION



Cole immediately got to work on his own game, employing the help of a few of his friends along the way. During this time, just as ComputerTutor had attracted Cole and his crew, so too would a young games fan named Damon Slye soon venture into the store. "I was in high school at the time, about 17 or 18 years old, and I would go in there to buy games," recalls Slye. "I was just drawn to computer games. At some point Jeff offered me some part-time work in the store and I said 'sure!'"

After working at ComputerTutor for a while, Slye mentioned to his new boss that he was making a game on his Apple II, and when he showed off his work Tunnell was impressed. The game? A 3D science fiction combat sim named *Stellar 7*. Tunnell told Slye of his games publishing intentions and tried to recruit the talented teenager into his new company, but Slye's grand ambitions led to some initial reservation. "Because I didn't really know who he was my attitude was more like 'nah, I think I want to work with Broderbund or Electronic Arts or Sierra; somebody like that,'" recalls Slye. Tunnell saw that he'd have to make the idea all the more appealing to Slye, and offered him a 30 per cent royalty instead of the standard 20 per cent that he could expect from other publishers. Slye agreed, and the partnership that would soon see the creation of Dynamix was formed.

Chris Cole's two weeks, meanwhile, had turned into close on two and a half years, but he did eventually complete work on his own game, *The Sword Of Kadash*. "I finished up the game right about the same time Damon was finishing up his *Stellar 7* and together these two products launched Jeff's Software Entertainment Company."

It didn't take long, however, before the realities of the barriers to entry in software publishing presented themselves. It was now 1984 and the already established big players had massive distribution networks in place, as well as the money to attract and pay top emerging talent. Realising this, Tunnell then came up with a new proposition for Slye. "Jeff told me that it was too late to get going on a publishing company without a lot of money," says Slye. "Then he said 'how about this: we form a partnership and you and I start a game development company instead?'"

Damon agreed, and because of the difficulty in trying to run the software store as well as a games business, Tunnell sold ComputerTutor to focus solely on games development. ComputerTutor owned the name SEC, however. Damon then came up with the name Dynamix, and instead of being publishers, Tunnell and Slye started a games development company – one of the first in the world.

Moving on up

Tunnell and Slye immediately started gathering talent for their fledgling

BY THE NUMBERS

3 The number of adventure games that were made using Dynamix's GDS technology.

4 The number of owners Dynamix had in 1984.

7 The number of games Dynamix produced in 1989.

27 The number of unique simulation games developed by the company.

30 The number of employees fired in February 1999.

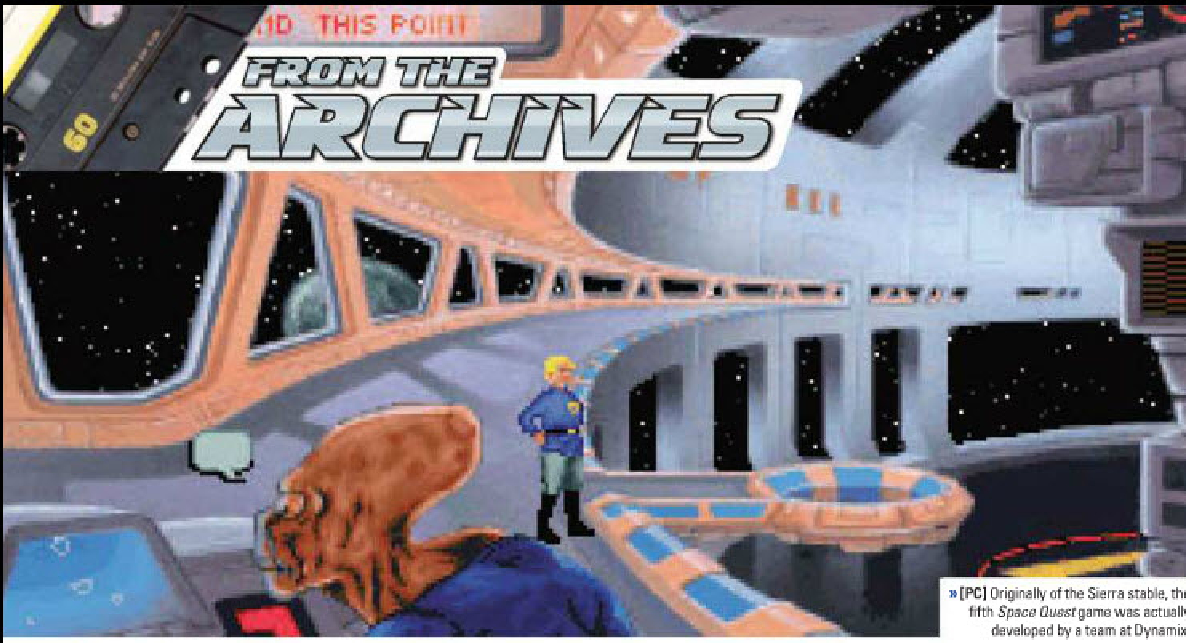
60 The number of employees fired in September 1999.

650 The amount of dollars, per month, it cost Dynamix to hire the company's junior programmers.

8,000 The number of approximate total sales of the original release of *Stellar 7*, back in 1982.

35,000 The dollar amount of the publishing deal Dynamix signed with Electronic Arts.

350,000 The number of copies that *Aces Of The Pacific*, Damon Slye's most successful game, ended up selling worldwide.



» [PC] Originally of the Sierra stable, the fifth *Space Quest* game was actually developed by a team at Dynamix.

TIMELINE

1981 JEFF TUNNELL BUYS AN APPLE II AND FOUNDS HIS SOFTWARE STORE, COMPUTERTUTOR.

1982 CHRIS COLE BEGINS WORK ON *SWORD OF KADASH*.

1983 JEFF TUNNELL AND DAMON SLYE START SOFTWARE ENTERTAINMENT COMPANY.

1984 TUNNELL SELLS COMPUTERTUTOR AND DYNAMIX IS FOUNDED.



> **"I, being the most brash of the bunch, declared 'I could write a better game in two weeks!'"**

CHRIS COLE'S UNIQUE APPROACH TO LANDING A JOB



THE LEGACY OF 3 SPACE

Damon Slye coded the original 3 Space engine when he was developing *Stellar 7* on the Apple II. The engine was then ported to the Amiga for the game *Arcticfox*, and then later ported across to the PC. Essentially, the underlying engine was such a success that it stayed in place, with the same 3D algorithms ported across different systems, for over ten years. "3 Space was basically there for the duration of Dynamix until they came up with a new engine for *Tribes*," says Slye. "I think that was the first game that broke out of 3 Space."

development house. They had received a game demo from a young coder named Kevin Ryan and were thoroughly impressed. "We looked at it and I thought it was incredible," says Slye. "Jeff and I talked about it and said that we have to bring this guy on because he's really talented." Soon after that, Ryan and a friend, Richard Hicks, joined up with Slye and Tunnell, becoming partner-owners in the young Dynamix.

With their talent in place, the slowly growing company started trying to make inroads with the larger publishers. They identified a potential in Electronic Arts, and Slye sent them a copy of *Stellar 7* to gauge their interest. "Joe Ybarra called," says Slye. "I think he said something like 'we're not interested in publishing *Stellar 7* because we think it's too much like *Battlezone*, but we'd be interested in meeting with you guys because we're launching a company and we need artists'."

The original excitement they felt at what seemed like a golden opportunity with the gaming giants soon turned to frustration as Ybarra never fully committed to signing Dynamix. Eventually, Slye grew tired of waiting. "He kept calling me but we weren't getting any deals or whatever," says Slye. "So I just called him up and said 'if you actually want to work with us, you have to sign us very soon because we're going to go away and do other things now – we're tired of waiting.'"

Ybarra had been impressed enough by the 3D technology in *Stellar 7* to know that he should not let this fresh developer from Oregon slip away to the competition, and invited it to EA headquarters to discuss something concrete. "We had this idea that was sort of like a *Prince Of Persia* thing," says Slye. "This *Indiana Jones*-style game with traps and all that, so we drove down and pitched the whole thing to EA."

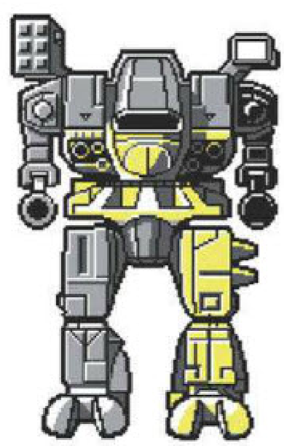
After the presentation, everyone in the room seemed positive and Dynamix thought it had it in the bag. That was until it got round to Joe Ybarra's final say. He said 'No, but we're interested in having you do a 3D tank game on the Amiga.'

This was the first the company had ever heard of the Amiga, and so it was with both the satisfaction and relief of finally signing a contract as well as curiosity about the new system that it got to work developing one of its key launch titles, *Arcticfox*.

"The Amiga hadn't even launched at that time," says Slye. "So when we started working on it, it was very secret and we were on prototype boxes – they were in a black steel case, the keyboard case was made out of wood and there were wires coming out everywhere. It was really cool."

Active visionaries

Arcticfox went on to be a great success, and given the clout that Electronic Arts had in the industry, Dynamix's profile skyrocketed. They kept working for EA for a few more years, developing memorable titles such as *Abrams Battle Tank* and *Project Firestart*, and the company had grown to around 20 people by the end of 1988. But by this time, Tunnell felt that Dynamix was due for a change.



"It is not a good thing to get 100 per cent of your revenue from one source," says Tunnell. "We were working 100 per cent with Electronic Arts, and decided that we needed to expand our customer base. I used to go to all of the CES and Software Publisher Association meetings, and I got to know everybody in the industry. It was easy to talk to the CEOs of all the companies. Dynamix rapidly got a good reputation, and everybody wanted to work with us."

"We were talking to a lot of companies, but Activision was the one we ended up moving to," adds Slye. "They were really trying to take on EA at the time, and we ended up moving from EA to them. We made an arrangement where everyone was happy, and then we signed a product deal with Activision."

The team got to develop games on some very big-name licenses that Activision had secured the rights for, such as *MechWarrior* – based on FASA's Battletech franchise – and the *Die Hard* and *Ghostbusters II* movie tie-ins. It was a productive and profitable year, and Dynamix ended up churning out a total of seven games by the end of 1989, five of which were for Activision. "I don't know how we managed to ship seven games," laughs Slye. "We were just cranking back then! I think everyone just knew what we were doing and we had technology that was mature. We had good people who had a lot of autonomy at that time. For example, the guy who made *Deathtrack* – Darek Lukaszuk – he just knew how to make the game largely on his own."

Now, although the team was doing well and had been producing good games for some impressive publishers, Tunnell and Slye had begun to feel that Dynamix was stagnating. "We had already decided that being a captive developer – that was our term for where you're a developer working solely for one publisher – you get stuck because of your cashflow needs. You get stuck and you can't get ahead, and so we realised that just being a developer wasn't taking us anywhere," says Slye.

1984 KEVIN RYAN AND RICHARD HICKS JOIN THE COMPANY AS OWNER-PARTNERS.

1986 SLYE COMPLETES WORK ON *ARCTICFOX*, A TOP LAUNCH TITLE FOR THE AMIGA.

1988 TUNNELL AND SLYE CREATE POSSIBLY THE FIRST EVER SURVIVAL HORROR GAME, *PROJECT FIRESTART*.

1989 DYNAMIX MANAGE TO SHIP SEVEN GAMES, IMPRESSING SIERRA CEO KEN WILLIAMS.

1990 DYNAMIX BECOMES "PART OF THE SIERRA FAMILY" AND JEFF TUNNELL PRODUCTIONS STUDIO OPENS.

1990 *RISE OF THE DRAGON*, DYNAMIX'S FIRST ADVENTURE GAME, IS RELEASED.

1993 DYNAMIX RELOCATES TO LARGER OFFICE SPACE AT RIVERFRONT RESEARCH PARK AS THE COMPANY GROWS BEYOND THE 100-EMPLOYEE MARK.

1993 TUNNELL AND COLE RECEIVE A PATENT FOR THE GAME CONCEPTS IN *SID & AL'S INCREDIBLE TOONS*.

1994 DAMON SLYE LEAVES THE COMPANY.

1995 AFTER HALF A DECADE IN HIS OWN STUDIO, JEFF TUNNELL RETURNS TO A LEADERSHIP ROLE IN DYNAMIX.

1996 *3-D ULTRA PINBALL* IS RELEASED AND THE SERIES GOES ON TO BE DYNAMIX'S LARGEST EARNER.

1998 *STARSIEGE: TRIBES* IS RELEASED AND BECOMES AN ONLINE GAMING PHENOMENON.

1999 JEFF TUNNELL LEAVES THE COMPANY FOR GOOD, AND CHRIS COLE LOSES HIS JOB SOON AFTER.

2001 DYNAMIX IS SHUT DOWN BY SIERRA AS A RESULT OF RESTRUCTURING UNDER NEW OWNER VIVENDI UNIVERSAL.



» The Dynamix team circa 1989, possibly after shipping seven games in a year.

"We decided that in order to really be worth anything," explains Tunnell, "we needed to own our own intellectual property and publish our own games. We had brought Tony Reyneke on to be our CFO (he was our accountant, and liked what we were doing), and he was helping us raise local 'angel capital'. During the capital raising process, I got a call from Ken Williams out of the blue. He wanted to license our 3D technology for some Sierra games for $300,000. That money was a godsend, and allowed our other capital rounds to close, so we could release *A-10 Tank Killer* and *David Wolf: Secret Agent* as an affiliate publisher with Activision. Ken liked our technology and products enough that he called me one day and said, 'Why don't we just buy you guys?'"

It was now 1990, and although *A-10 Tank Killer* and *David Wolf* had been released and were selling fine, the revenue they brought in wasn't actually proving enough to keep Dynamix afloat. The call from Ken Williams was a godsend.

"Ken was impressed by the fact that we shipped seven games in one year," explains Slye. "Early on he said 'there's no way you're going to ship all these… no way', so when we did, he liked it a lot and wanted to do an acquisition. Things like this were not really happening too much in the game business, and so he was sort of going outside the box wanting to do the acquisition. Eventually we worked out an arrangement with them and it worked out really well for everybody."

The Sierra family

Just before the acquisition went through, Dynamix had been working on its first adventure game: *Rise Of The Dragon*. Sierra and LucasArts had set the standard for adventure gaming with titles such as *Maniac Mansion* and the *King's Quest* series, but the crew at Dynamix wanted to try something entirely different.

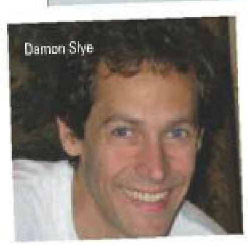
"I just wanted to make a storytelling game in a way that I thought would make people care about the characters," recalls Tunnell. "Dynamix's adventure games started before Sierra bought us, and used our GDS technology. *Rise Of The Dragon* was nearly finished when we sold Dynamix."

In keeping with their wacky and exciting use of nomenclature (remember that Tunnell had called his first games company 'Software Entertainment Company'), Dynamix dubbed its adventure game toolkit 'Game Development System'. GDS was not only a handy tool for putting together their adventure titles, but was also a boon to productivity; it was designed to work over the office network so that different people could be building the same scene simultaneously, with non-technical staff able to craft dialogue and conversations, work on graphics and animations as well as set event triggers to move the story or action along. GDS proved an excellent tool, the timing was perfect, and Dynamix was able to release the very successful *Rise Of The Dragon* soon after being bought by Sierra.

WHERE ARE THEY NOW?


Jeff Tunnell

Jeff Tunnell and fellow Dynamix big dog **Rick Overman** co-founded PushButton Labs after moving on from their very successful post-Dynamix endeavour, GarageGames. Among PushButton Labs' list of titles is the very successful Facebook game *Social City*, which currently has over 10 million active users. PushButton has also created *Grunts Skirmish*, an online semi-real-time strategy game, and released *The Incredible Machine Mega Pack* on **www.gog.com**, where you can buy almost every *Incredible Machine* game for only $9.99 (approx £6.50). He writes regularly both on his personal blog and for the community game portal Great Games Project. Jeff has also taken to rocking out stage with his band, The Procrastinators. When not busy with gaming or gigging, he lifts Olympic weights, enjoys riding motorcycles and is engaged in setting up Furrer Farms, a 200-acre organic farm.


Damon Slye

Damon Slye left Dynamix and spent almost 13 years away from the games industry. During this time he went back to university to complete a degree and also earned himself a pilot's licence – a direct result, says Damon, of having worked on so many simulation games and wanting to experience it for real. After a long hiatus, it was Jeff Tunnell who got Damon back into games, teaming him up with Chris Cole once more to found Mad Otter Games and work on the flight sim *Ace Of Aces*. Mad Otter also employs Dynamix alumni Paul Bowman, Nels Bruckner and Mark Brenneman, and is currently working on *Villagers And Heroes*, a free browser-based MMORPG. Like PushButton Labs, Mad Otter has also released some of its old property on **gog.com**, with the *Red Baron Pack* on sale for $9.99.

It was a good time for Dynamix, as Sierra had pulled it out of the captive developer rut it was in and saved it from what could have soon turned into dire financial straits. Sales were better than ever, and with the strong financial backing and the increase in the scale of its projects, Dynamix experienced growth like never before. "It was interesting," recalls Slye, "that after the acquisition Ken was interviewed by the *Register Guard*, the local paper here in Eugene. We were probably around 35 people and he said 'in a year there'll probably be about 120 people here' and I just thought 'you're crazy, man!', but he was right! Because once they bought us they started funding and letting us hire more people for our projects, so it was a big growth time."

After *Rise Of The Dragon* came the very popular World War I flight sim *Red Baron* (which was also quite far into production by the time Sierra came along), and the company's second game to use the Game Development System, *Heart Of China*, soon followed. It was shortly after this that Tunnell got started on his next project, which would go on to be one of Dynamix's most popular titles of the era: *The Adventures Of Willy Beamish*. "My big goal with *Willy* was to really raise the bar on story and animation. Willy was the first game in the world to use cell animations scanned in. We hired Disney animators. The first time I saw Willy walk across a room and jump on the couch, I knew we had something special. To raise the bar on the story, we hired Tony and Meryl Perutz, two writers from Hollywood. Tony, Meryl and I had weekly story sessions where they would bring in wild story elements, and I would work them into the adventure game format of puzzles, rooms, cut-scenes, etc. It was one of the most fun games that I ever worked on."

Like *Rise Of The Dragon* and *Heart Of China* before it, *Willy Beamish* sold well and Dynamix had produced yet another hit. Tunnell, always the entrepreneur, then left his managerial role at Dynamix to open Jeff Tunnell Productions (JTP). Here he had more creative freedom to work on his own projects, and even though it was a separate studio, JTP still worked closely with Dynamix and Sierra. Jeff Tunnell and Kevin Ryan then developed *The Incredible Machine*, a unique puzzle title and forerunner to *Sid & Al's Incredible Toons*, for which they received a patent for the title's distinctive game concepts.

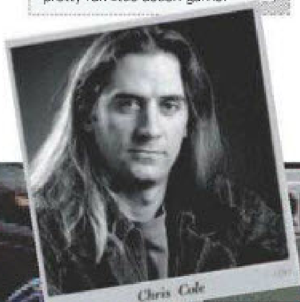
All good things

By 1994, however, Damon Slye had been with the company a decade and felt like he needed a change. He had just completed work on *Aces Of The Pacific*, a title that he says proved incredibly taxing, and was feeling utterly burned out by the gaming industry. "It was really strange because I was doing really well," he says. "I was making good money and doing cool stuff, but I was pretty much just working all the time. I didn't realise it at the time but I was probably a little depressed and so I wanted to get out of what I felt was a very isolated environment. I would just get up and go to work and work on games and then go home, so I wanted to get out and experience more things." Slye made up his mind, quit Dynamix, and left the industry altogether. He would not return to the world of gaming until 2007 when he founded Mad Otter Games with a group of fellow former Dynamix employees.

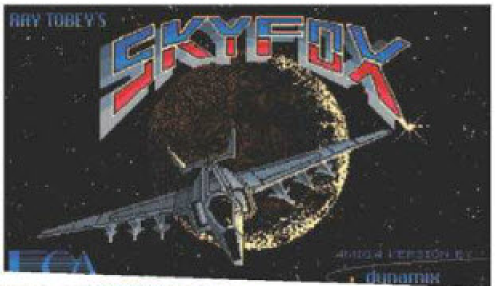
Despite losing Slye, it was still a great time for Dynamix in terms of game development. It saw more hit titles such as

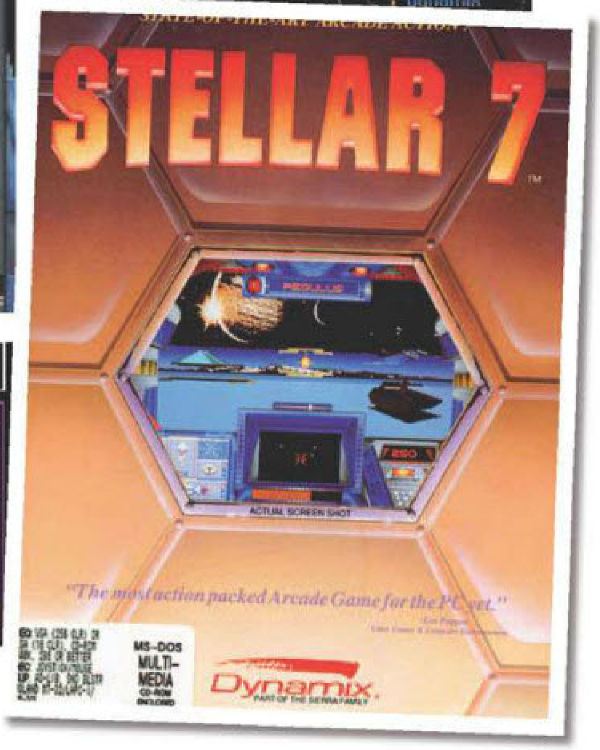
CHRIS COLE'S PERSONAL BEST

Longtime Dynamix developer Chris Cole takes us through two of his favourite projects: "First off – and I only say this half jokingly – *The Sword Of Kadash* was the best game I ever wrote," says Cole. "There really was something magical about that first game. We all played it for hours and loved it. I've said for many years, 'Never make a game you would want to play, because by the time you finish it you'll never want to play it.' *Sword Of Kadash* was an exception for me to that rule. Aside from that, I wrote a really fun action game that didn't do so hot in the market called *Hunter Hunted*. This game was intentionally a souped-up side-scroller throwback, but that appears to have been a bad marketing decision as it was released right about when *Quake* was making its impact on the industry. It was buried in the marketplace by *Quake* and *Diablo*. It got good enough reviews – mid-8s, if I remember – but nobody ever saw it… I thought it was a pretty fun little action game."



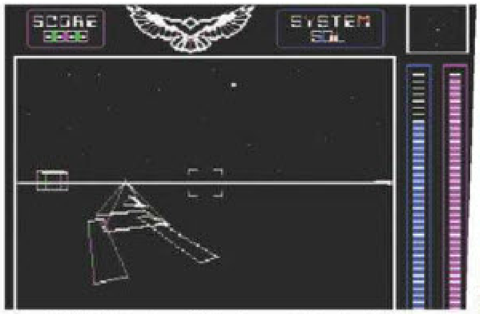








» [Mega Drive] Realtime Games Software ported Damon Slye's *Abrams Battle Tank* to the Mega Drive



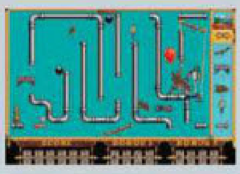
» [Apple II] The first version of *Stellar 7* was actually released before Dynamix was formed.

SIX OF THE BEST



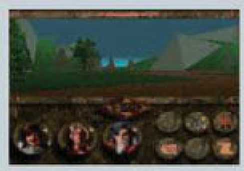
The Adventures Of Willy Beamish (1991)

Possibly Dynamix's most memorable adventure game, this 'kids' game for adults' boasted incredible graphics and animation thanks to Dynamix employing former Disney artist Rene Garcia.



The Incredible Machine (1992)

A standout title, *TIM* is the ultimate physics puzzle game, offering bowling balls, monkeys, bicycles and other tools for building comically complex 'machines' that achieve simple goals.



Betrayal At Krondor (1993)

A classic RPG built in Raymond E. Feist's classic world, *Betrayal At Krondor* received rave reviews. Feist would go on to novelise the story, which has been accepted by hardcore fans as canon. We strongly urge readers to give it a try.



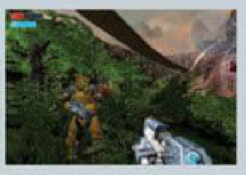
Red Baron (1990)

A brilliant flight sim that had both brilliant campaigns as well as a customisable mission generator for unlimited replayability. It's easy to understand why Damon Slye considers it to be his favourite game he worked on.



MechWarrior (1989)

The first official BattleTech sim that saw players able to control robots in future combat, *MechWarrior* was a big hit. The game offered a good variety of mechs and enabled players to follow the storyline or pursue a life as a freelance mech warrior.



Starsiege: Tribes (1998)

Despite arriving very late in Dynamix's life, this FPS went on to be one of its most memorable titles. It was Dynamix's attempt at a *Quake* killer, and the large outdoor areas added a new element to the claustrophobic world of FPSs.

TWO TO AVOID



David Wolf: Secret Agent (1990)

David Wolf: Secret Agent was Dynamix's take on James Bond, complete with over-the top villains, the hot dame, and the nerdy tech guru who provides Wolf with his nifty gadgets and souped-up vehicles. It was an experimental title that used video cut-scene stills to tell the story between its various simulation sections, but unfortunately it suffered from poor execution in certain parts. Perhaps *David Wolf* should be looked back on more as a prototype predecessor to Dynamix's other cinematic titles.

Metaltech: Battledrome (1995)

This was basically *Wing Commander: Academy* for the *Earthsiege* universe, and felt to many like a slapped-together battle simulator with little depth or story – and that's because this is exactly what it was. Battledrome's major draw card was that it introduced multiplayer mech – sorry, Herc – combat for the first time, and was always intended to be seen as a two-player game. The addition of network and modem play was a step forward, but as a standalone product, it just didn't bring enough to the table to justify a purchase.





> **"Instead of being a publisher, we decided to be a game developer – one of the first in the world"**

JEFF TUNNELL ON STEPPING UP FROM THE DAYS OF BEDROOM CODING

the *Front Page Sports* series, the *Aces* series, and the *Earthsiege* games and, in 1995, his stint with JTP over, Jeff Tunnell returned to Dynamix full-time, a welcome homecoming to a company that for a year was without either of its original founders. It would be a short stay, though. Ken Williams sold Sierra in 1996, and things began to turn sour for the company not long after that. Dynamix put out more great games, with perhaps the most notable being the 1998 multiplayer FPS hit, *Starsiege: Tribes*, but trouble was brewing on a corporate level, and the effects were soon felt on the ground. Sierra quickly went from dedicated gaming house to corporate commodity, experiencing a string of sales to various corporations and then breaking down almost entirely because of a case of accounting fraud committed by then owner Cendant Corporation. In 1999, after a series of brutal lay-offs, Tunnell left what Sierra and Dynamix had become to start up GarageGames with three other former Dynamix employees.

This time also saw the departure of Chris Cole, among many others. "I was laid off when Jeff left the company in September 1999," he says. "The company at that point had got pretty corporate and I had been very aligned with Jeff, so in that changing of the guard, I assume, the powers that be saw an opportunity to get rid of some of his lieutenants." Cole was one of 60 people who were laid off, a huge chunk of Dynamix's then 170-strong workforce. Tunnell, Slye, Cole and many other longtime stalwarts were gone, the soul of the company with them. Two years later, on 14 August 2001, Dynamix was closed forever.

"It was sad the way the whole thing worked out," says Slye. "I mean, I still don't know exactly why it was shut down… there are a lot of different rumours about why that was. But I know it was a big French water company, so I don't understand that. It's a weird world… but I'd been apart from it for so long already, and it ended up being one of those creative destruction things in that after it shut down all these other things sprang up out of it."

Jeff Tunnell shares similar sentiments about the end days of his company, and, like Slye, maintains that even though Sierra shut it down, the core of Dynamix is still very much alive thanks to what its former staff are up to now. "It was sad to see Dynamix close two years after we started GarageGames," says Tunnell. "By that time we didn't really even know what was going on inside the company, but we did still have a lot of friends working there. Dynamix still lives on in Eugene, though. Buzz Monkey, Pipeworks, Playdom Eugene, PushButton Labs, Mad Otter, Game Clay, GarageGames, and others still have roots that trace back to Dynamix. In a way, Dynamix is stronger than ever."



QUACKSHOT STARRING DONALD DUCK

DONALD, OR JUST NATHAN DRAKE IN A DUCK COSTUME?



- » **PUBLISHER:** SEGA
- » **RELEASED:** 1991
- » **GENRE:** PLATFORMER
- » **FEATURED HARDWARE:** MEGA DRIVE
- » **EXPECT TO PAY:** A FEW QUID



HISTORY

You have to feel for Donald Duck. Not only does he play second fiddle to a big-eared mouse with a girl's voice, but Disney didn't even give him a pair of underpants. Shameless. Well, thanks to Sega of Japan – for brokering a deal with Disney to develop a series of Mega Drive games starring its creations – Donald finally got his moment to shine when he was plucked to star in his own platform game; one that, in my opinion, was actually better than *Castle Of Illusion*.

After discovering a treasure map charting the whereabouts of the lost riches of King Garuzia, Donald and his nephews set off on an *Indiana Jones*-style adventure to find the treasure, make their fortunes and invest it all into a giant mouse trap. Donald's expedition takes him to the arid deserts of Mexico, the darkest reaches of Transylvania, and almost everywhere in between, and every level is wonderfully detailed, brimming with colour and a joy to negotiate.

One of the elements that makes *Quackshot* so endearing is its gameplay, a clever fusion of judicious platform action and soft adventuring. Summoning a handy airlift from his young nephews, Donald is able to travel to any level on the game map (when they're all opened up). However, certain areas of each level can only be accessed if Donald possesses a particular item, ranging from a key or a handy weapon upgrade (such as plungers that stick to walls and can take a duck's weight).

Donald is blessed with an impressive array of moves and weapons, including a brick-destroying bubble-gun and a handy sliding dash move to get him out of tight scrapes and through tight gaps. Also, in a neat homage to the character's famous short fuse, the game features a temper bar which can be filled up by collecting chilli peppers, to turn Donald into a devastating ball of fury.

While it might be short, *Quackshot* holds plenty of charm, wit and enjoyable platform action. And it's also one of the few times in history that Donald actually succeeded in getting one up on his rival Mickey Mouse.





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IDLE
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JUMP-O MASTER



Gaming: A Bluffer's Guide

MS-DOS powered most of the gaming that went on in the PC world from 1981 until it was supplanted by Microsoft's Windows 95 towards the end of the Nineties. This transition meant that rather than dying out, like so many retro platforms have, PC gaming is still with us in another form. Join Michael Reed as he tells you everything you need to become a DOS master

The MS-DOS driven PC is a platform that probably doesn't get the amount of respect that it deserves, and there are a few reasons for this. Firstly, the platform lacked the closure of a sad farewell because, towards the end of the classic DOS era, PC gamers played a combination of DOS and Windows games. This smooth transition, as opposed to a clean break, seems to have eliminated the typical feelings of nostalgia that develop for an old platform. Secondly, the success of the PC wasn't built upon emotional attachment in the first place because PCs weren't cute; they were functional, beige business tools. PCs also lacked an image for gamers to fixate upon as so many manufacturers made so many different models. Thirdly, thanks to backwards compatibility, no one bothered to keep their old PC when they upgraded to a new model. The lack of these emotional triggers has consigned the classic vintage PC to be a retro platform that people tend to forget about.

It's a shame, too, because it's one of the best formats to get interested in. The platform has a unique character all of its own, and there are thousands of great games. It was also uniquely long-lived compared to other retro platforms, the different eras combining to make it like two or three different platforms in one.

But, to fully understand PC gaming, you have to start at the beginning…

A bit of history

Until the start of the Eighties, most personal ownership of computers extended only to games consoles, and that's hardly surprising, as the computers of that time were huge, expensive, and frankly, a bit boring. Institutions such as banks were typically the customers for computers that would live out their lives in specially built ventilated rooms. This all began to change when companies like Commodore and Apple decided that ordinary people might want to use computers in the office or home.

This new trend had not escaped the attention of the grey beards at IBM, and the decision was taken that IBM would make its own personal computer. Subsequently, the IBM PC came together in about a year; a short time by any standards, and remarkably so for a leviathan like IBM. It achieved this by eschewing the typical design procedure for a major new project, instead building the machine out of off-the-shelf components. This decision would have unexpected repercussions for IBM.

The IBM PC was released in 1981. At a couple of thousand pounds, with monitor, it was a bit more expensive than some contemporary personal computers but considerably cheaper than the mini and mainframe systems that had made up IBM's core business up until then. The basic model had 64K of RAM, a 4.77MHz CPU and a floppy disk drive. Command-driven Microsoft DOS was the operating system. This was before computers like the Commodore Amiga and Apple Macintosh made a mouse-operated graphical interface a standard feature.

No doubt, by 1982, the higher-ups in IBM were reasoning that if there was going to be a change in how people used computers, at least IBM now had a serious stake in it. Then something happened that took IBM by surprise: a company called Columbia Data Products



THE DREADED COMMAND LINE

PCs were latecomers to the world of mouse-controlled user interfaces. In the early days, games were loaded by simply placing a disk in the drive and powering up the system. As hard disk adoption became widespread, users had to get the hang of using the command line. Even now, some people are probably put off the idea of messing around with DOS games because a command-driven system can seem intimidating. In practice, there's not much to it. Typing 'dir' gives a list of all files on the disk. Type 'cd' followed by the name of a game folder to enter it. The programs that you can run are marked with .bat, .exe or .com on the end. Easy, eh?

created the first IBM PC compatible computer, the MPC 1600. This had been made possible by the fact that IBM's PC had been made from commonly available components in order to speed up the design process. Making matters worse for IBM, the MPC 1600 was also cheaper and had slightly higher specs than the original IBM PC. Later that year Compaq announced a portable IBM PC compatible. Subsequently, other manufacturers began to make their own clones and the term PC would come to refer to IBM PC compatible computers rather than its original general meaning of any personal computer.

Early PC gaming

As a games machine, the capabilities of the original IBM PC were middling, and it was more expensive than a dedicated home computer. This fact highlights a key point about the early years of PC gaming: due to its cost, it was bought for serious use and games remained something of a novelty on what was, effectively, a business computer.

A lot of the early commercial games were ports from other systems, produced as a sideline by established publishers. The fact that the demographic that owned PCs was typically older, coupled with the limitations of the machine in the area of fast, colourful graphics, combined to attract a more serious class of games such as those in the strategy, adventure and simulation genres. Sierra Online, already a creator of highly lauded graphical adventure games, became an early supporter of the platform thanks to IBM itself. IBM commissioned the company to create a launch title for its IBM PC Jr home computer. The launch game was *King's Quest*, and although the PC Jr was not a success, *King's Quest* itself was a hit when it was made available for the standard IBM PC, among other platforms.

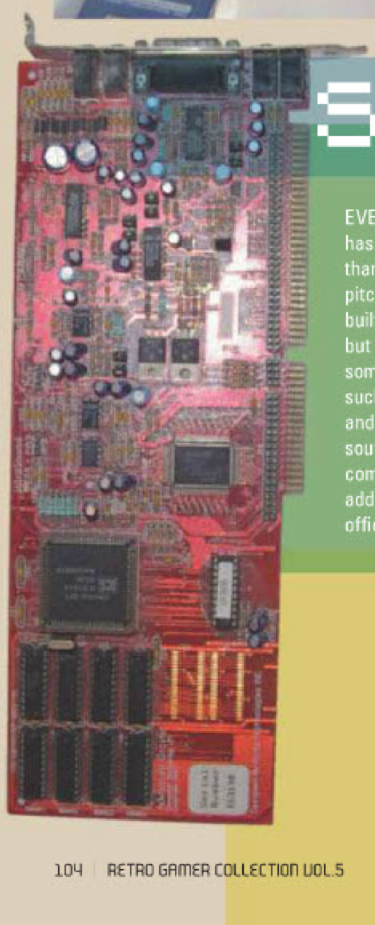
Strategic Simulations Inc was one of the established companies that supported the PC from the beginning, but founder Joel Billings told us that he wasn't particularly enamoured with the early PCs. "I remember that the first IBM PC was very clunky and hard for us to deal with. Knowing how big and successful IBM was, I'm sure we thought it would eventually do very well. We definitely wanted to get some games working on it. At SSI we wanted to support the PC because we wanted to support all personal computers that had any substantial installed base."

Although shoot-'em-up games were never the main thrust of the PC gaming scene, some high-quality coin-up conversions were made in the early days. In 1983, Atarisoft did conversions of some arcade classics such as *Defender, Battlezone* and *Dig Dug*, while Brøderbund contributed a very good conversion of *Star Wars*.


» The old, big cardboard boxes had a lot of character, but for reasons of convenience gave way to standard DVD-style boxes in the late Nineties.

The 286 Era

By the mid-Eighties, the PC market began to take flight thanks to the cheap clones from companies such as Tandy and Compaq. Although IBM had lost its exclusive control of the platform, it continued to introduce improvements that would then become official extensions to the standard. In 1984, the company introduced two major refinements in the form of the IBM PC/AT and the EGA graphics system. The AT architecture was based around the considerably faster Intel 80286 processor. As the model numbers of Intel processors were becoming a mouthful, most of the press referred to both the CPU and the class of machine as simply the '286'. These new developments were largely software compatible with the original PC specification, and this practice



SOUND CARDS

EVERY IBM PC COMPATIBLE has a basic sound generator than can play one note of varying pitch through a single speaker built into the computer case, but PC owners soon yearned for something better. Companies such as Covox, Creative Labs and Ad Lib began to offer add-on sound cards, leading to a set of competing standards. As these add-ons weren't part of the official IBM PC specification, each game had to offer support for every model. To add value and save on expansion slots, most sound cards included a standard PC game port for a joystick.

The Sound Blaster

After the first few years, the Creative Labs Sound Blaster became the most popular sound card, and most cards aimed at gamers offered compatibility with it. The first Sound Blaster offered a simple 11-voice music synthesizer in addition to digital audio playback and full Ad Lib compatibility: extremely generous facilities for the time. Subsequent models introduced 16-bit sound and better musical capabilities while maintaining full backwards compatibility with the original Sound Blaster.

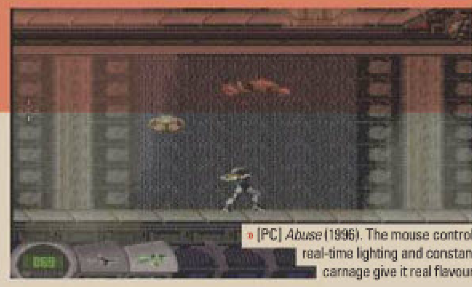
The Gravis Ultrasound

Regarded by many as one of the finest DOS gaming sound cards, the Gravis Ultrasound was introduced in 1992. From the start it had a high-quality wave table music synthesizer that uploaded instruments onto the card as needed, from disk. Although its Sound Blaster compatibility was only fair, it was a hit with consumers and developers and was well-supported for the remainder of the DOS era.

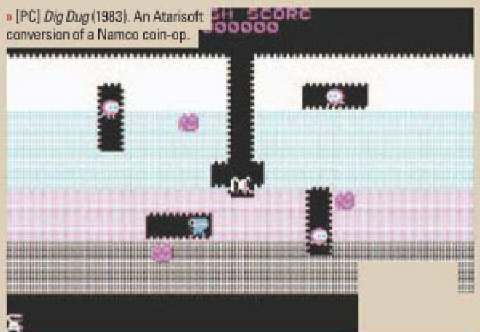




» [PC] *Jack Nicklaus Golf & Course Design* had CGA, EGA and VGA versions, as shown here.



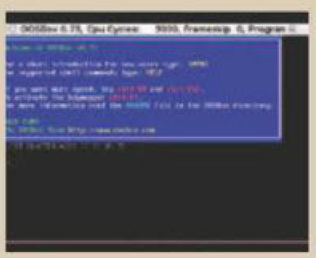
» [PC] *Abuse* (1996). The mouse control, real-time lighting and constant carnage give it real flavour.



» [PC] *Dig Dug* (1983). An Atarisoft conversion of a Namco coin-op.

PC EMULATION WITH DOSBOX

Although every effort has been made to maintain backwards compatibility in PC design, more than 25 years of development has taken its toll. Along with other problems, modern computers often run far too fast for some old games, and old sound cards won't run on modern hardware. In addition, modern versions of Windows simply won't allow old software complete freedom to access all of the hardware. Fortunately, there exists a very good vintage PC emulator called DOSBox (www.dosbox.com). The command-driven nature of the program does add a bit of complexity to loading games, but it's worth persevering as it can emulate a number of different hardware standards. It also includes an all-important facility to slow down the emulator for games that are sensitive to execution speed. Overall, DOSBox provides very accurate and flexible emulation. Just remember that the Ctrl-F10 key combination releases the mouse.



"Each generation of PCs revealed developers that had failed to anticipate a newer, faster PC"

of rigorous backwards compatibility would become a cornerstone of the PC platform until the present day.

One snag that cropped up with the second generation of PCs was that a lot of older games ran too quickly. Some PC makers tried to get around this with the addition of a 'turbo' button on the front of the computer case. Actually, the labelling was somewhat misleading, as the function of the turbo button was to slow the computer down. It's a problem that dogged the PC throughout the entire DOS era, as each generation of new PCs revealed software developers that had failed to anticipate a newer, faster generation.

Game pads were available, but most PC joysticks were of the analogue type, which were more suited to control of simulators. The speed problem reared its head here, too, as joystick support suffered from calibration problems on faster computers. To work around this, many games offered a calibration feature, and most of the best joysticks featured trim controls for the same reason. Not every PC owner had a joystick – or even a joystick port, for that matter – so nearly all games could be played from the keyboard, defaulting to the cursor keys.

Platform games weren't an area of gaming that PC was well-known for, and although the PC's hardware wasn't very suited to them, some interesting platform games do exist. Making use of shareware distribution, *Duke Nukem* and *Commander Keen* are the most famous franchises in this genre. *Commander Keen* was programmed by 3D graphics legend John Carmack and proved to be an early episodic success for Apogee, having started life as a clone of *Super Mario Bros 3*. Softdisk, the company that later became Apogee and then 3D Realms, presented the demo to Nintendo. The Nintendo executives were impressed by Carmack's technical achievement but the company remained uninterested in entering the PC games market. Nothing was wasted, however, as Carmack and co reused the engine for *Commander Keen*.

One advantage that the PC had over its rivals was the fact that it was so flexible, and a huge industry of component makers and system builders sprung up around the PC. Even end users would often get in on the act, either building from scratch or customising an existing system. The downside was that game developers were unable to test every possible hardware combination on the market, and this sometimes led to software incompatibilities.

By the time that 286s were common, most PCs had a hard disk drive fitted and it became a requirement of most games. Naturally, that added a bit to the cost of the computer, but it was worth it for the improved speed and convenience. It was also around this time that PCs started to be sold with Microsoft Windows installed as standard, giving the user a graphical way of managing files and launching games. A few games could take advantage of early versions of Windows, but until Windows 95 and Pentium class machines became common, the majority were pure DOS games that merely ran under Windows.

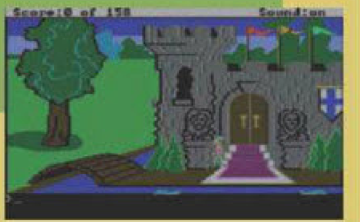
The 386 Era

In 1986, it was Compaq rather than IBM that introduced the first PC based around the Intel 80386 processor. IBM soon followed suit, demonstrating the benefits to the consumer of a competitive marketplace. The early 386 machines offered a huge speed boost, although the high cost of the first



» [PC] Set in the *BattleTech* universe, *MechWarrior 2* (1995) was an action game that required a bit of thought.

EIGHT IMPORTANT DOS GAMES



KING'S QUEST: QUEST FOR THE CROWN

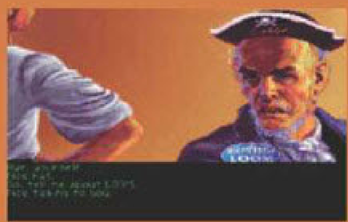
» **Released:** 1985
» **Publisher:** Sierra
» **Developer:** In-House
» **By the same developer:**
Leisure Suit Larry (1987)

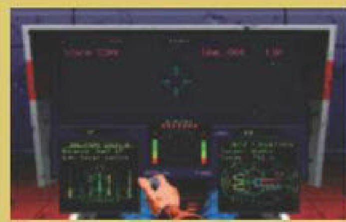
■ *King's Quest* modernised the adventure game by combining real-time graphics with text input. Its success set the tone for many other Sierra adventure games such as the *Space Quest*, *Police Quest* and *Leisure Suit Larry* series of games as well as the adventure game genre in general. The increasingly large installed base of PCs provided a ready market for high-quality games that required a bit of thought. A trick squeezed 16 on-screen colours out of a CGA card with suitable monitor.

THE SECRET OF MONKEY ISLAND

» **Released:** 1990
» **Publisher:** Lucasfilm Games
» **Developer:** In-House
» **By the same developer:**
Maniac Mansion: Day Of The Tentacle (1993)

■ Other games had featured the occasional funny moment, but adventure game *The Secret Of Monkey Island* was truly hilarious and set a new standard for everything that followed. The use of anachronistic references added to the humour, and apart from the jokes, accessibility was a driving factor behind the design that did away with manual text entry entirely. The player character could not die and more than one puzzle could be worked on simultaneously, both of which reduced the frustration that sometimes marred traditional adventures.





WING COMMANDER

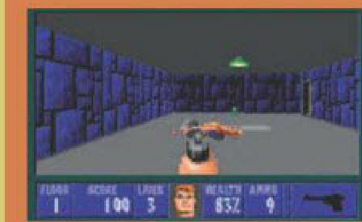
» **Released:** 1990
» **Publisher:** Origin Systems
» **Developer:** In-House
» **By the same developer:**
System Shock (1994)

■ This mission-based space shooter raised the bar for cinematic atmosphere and storytelling within an action game. The game attempted to recreate the atmosphere of film space epics such as *Star Wars*, putting the player in the thick of the action. The cinematic feel extended to the musical score and the animated cut-scenes that progressed the story. The hardware requirements were crushing at the time of release, and this was one of the first high-end games that would cause people to upgrade their hardware simply to play it.

WOLFENSTEIN 3D

» **Released:** 1992
» **Publisher:** Apogee Software
» **Developer:** id Software
» **By the same developer:**
Crystal Caves (1991)

■ *Wolfenstein 3D* was the game that really kick-started the FPS (first-person shooter) craze on the PC. There had been earlier FPSs, but *Wolfenstein 3D* laid out the blueprint for the games that would follow and it did so brilliantly. John Carmack did what he does best by creating a game engine that is fast and slick looking. In the game, the player moves through level after level of Nazi soldiers, dispatching them with a variety of weapons that are gradually gained as the player progresses. A landmark title by any standards.



models stopped them from becoming regarded as an entry-level machine until the beginning of the Nineties.

In less than a decade, the PC had become one of the most important platforms, which was quite a switch from the early days when PC owners had to make do with ports from the other machines. With the PC beginning to dominate the high end and consoles covering the action-oriented titles and youth market, the Nineties saw a decline of traditional home computers.

Games like *Wolfenstein 3D* (1992) and *The Secret Of Monkey Island* (1990) were PC titles that were then ported to other platforms following the PC release. Real-time strategy game *Dune II* (1992) is a good example of an early Nineties PC game that went on to be adapted for other platforms. Another significant aspect of games like these is that they relied on a clear separation between the game engine and content. Many PC genre hits are like applications such as web browsers in that later games are merely improved versions of the earlier games. For this reason, it might be difficult for a new player to fully appreciate something like *Dune II* or *Doom*, as similar but greatly improved modern games of those types exist.

IBM introduced the VGA graphics standard in 1987, and by the time the decade came to a close, a 386 PC with VGA graphics and a sound card was the best platform money could buy for gamers who enjoyed a more serious style of gameplay. In the same way that the hi-fi revolution of the Seventies had created a demand for more technically advanced musical recordings, PC gamers who had invested money in a high-end gaming rig demanded games that made the most of their hardware. Space combat game *Wing Commander* (1990) is a consummate example of a game that offered a cinematic experience for people who were prepared to shell out for a top-level machine. Another improvement of the platform was the move away from floppy disks to CD-ROM.

The 486, the Pentium, and the end of DOS gaming

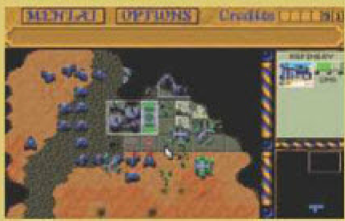
In 1989 Intel introduced the i486 processor, and like the other CPUs, it took a few years before complete PCs using it were commonplace. Notice that Intel had stopped issuing chip names that were simply a number at this point; by now other manufacturers were making very competitive clones of the Intel chips, and the company had discovered that it was unable to legally trademark a number. This is the reason that the successor to the 486 was called the Pentium.

It's worth noting that the pace of PC hardware development has always been constant, in contrast to manufacturers of home computers such as Acorn and Commodore, which would sometimes go years without a major new development. One thing was certain: if the users were willing to continue to buy

» [PC] Here we have CGA, EGA and VGA versions of *688 Attack Sub* by Electronic Arts.







DUNE II

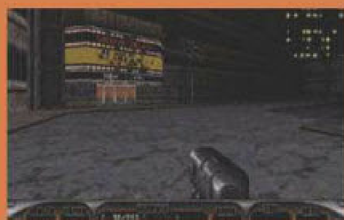
» **Released:** 1992
» **Publisher:** Westwood Studios
» **Developer:** In-House
» **By the same developer:** *Eye Of The Beholder* (1990)

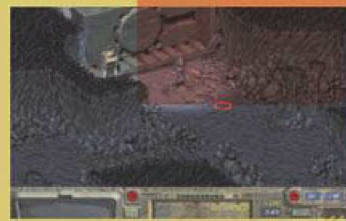
■ Nearly every real-time strategy game that followed it owes something to *Dune II*, including Westwood's very own *Command & Conquer*. It's the game that ratified the mechanisms for things like resource gathering, fog of war, technology trees and the control of units. It's also responsible for pulling in people who weren't traditionally fans of strategy games. Victory after hours of bitterly fought warfare and looking out of the window to notice that it was getting light outside became frequent companions thanks to this groundbreaker.

DUKE NUKEM 3D

» **Released:** 1996
» **Publisher:** Apogee Software
» **Created by:** 3D Realms
» **By the same developer:** *Terminal Velocity* (1995)

■ Like *Wolfenstein 3D*, *Duke Nukem 3D* was a first-person shooter entry to an existing 2D PC franchise. While the games of id Software concentrated on stripped-down gameplay, *Duke Nukem 3D* retained some of the complexity of the earlier generation of games with transporters, jet packs, triggered bombs and realistic environments. These factors kept *Duke Nukem 3D* competitive against games like *Quake*, which had an arguably more technologically advanced rendering engine. Hail to the king indeed.





FALLOUT

» **Released:** 1997
» **Publisher:** Interplay
» **Developer:** Black Isle Studios
» **By the same developer:** *Star Trek: 25th Anniversary* (1992)

■ Isometric RPG *Fallout* is known for its post-apocalyptic setting, dark humour and branching plotlines. While journeying through the enormous game world, the player is given an unusual amount of freedom to make moral choices. Do you do the right thing, or take the easy way out? Are you a smooth-talking con man or is violence a quicker route through life? The turn-based combat adds a strategic element to a game that is as much adventure game as RPG. A truly excellent experience that needs to be played by everyone.

GRAND THEFT AUTO

» **Released:** 1997
» **Publisher:** Rockstar Games
» **Created by:** DMA Design
» **By the same developer:** *Lemmings* (1991)

■ *Grand Theft Auto* was one of the final major releases to support DOS and it even made use of 3D acceleration for owners of 3DFX cards. The secret of its success is that it blends lots of different elements together, but does so very well. For example, it is basically a 2D game but it makes use of 3D graphics. In the same way, the game at first seems quite old school, belying the complex sandbox environment and emergent gameplay. A lump of good old-fashioned controversy didn't hurt, of course. Yet another highly successful PC franchise.



faster and more powerful computers, developers were willing to produce games that would push the machines to the limit. The extra processing power had impact on two main areas of PC gaming: multimedia and real-time 3D graphics. Games like *Command & Conquer* (1995) made use of multimedia by filming story-advancing cut-scenes with real actors.

However, it was the success of games like *Doom* (1993) that brought about the biggest change in gaming since the start of the personal computer revolution: the move to 3D. The Sega Saturn was a significant commercial disappointment during this period mainly because the switch to 3D caught it out, as it wasn't very good at it. Most graphics card manufacturers made their own extensions to the basic VGA standard, and these were collectively referred to as SVGA. Some games began to offer high-definition play modes, although support was sometimes awkward because, as with sound cards, there was no single standard. SVGA support improved the look of games and offered substantial benefits to games such as *Warcraft II* (1995) or *Fallout* (1997). Games like this would have been less enjoyable to play on the consoles of the time due to the lack of a mouse, clear graphics and a hard disk drive.



If there was a downside to the final era of DOS gaming, it was that, as the capabilities continued to improve, the cost of asset creation substantially increased. At the start of the PC, bedroom coders were still able to make and sell games, but by the time that most PCs had a Pentium-class processor, huge teams of designers, actors, directors, musicians and many other creative people worked together to create games at a cost of millions of pounds. This meant that the corporations that financed the games could no longer afford to take risks, and this led to homogenisation. When one game was a big success, a set of very similar games was sure to follow on the PC.

By the time that PCs powered by Pentium-class processors were commonplace, nearly all users were running a combination of Windows and DOS software at the same time. Some games such as *Fallout* and *Grand Theft Auto* came with DOS and Windows versions on the same disk. But as we said, unlike a lot of explorations of a retro platform, this one doesn't have a sad ending. DOS and Windows gaming continued to live side by side for a number of years and gaming on the PC continued to improve.

So, next time you marvel at the latest PC blockbuster, remember that the first PC could only manage four colours at once and was far from being a winner in the games department.

PC GRAPHICS STANDARDS

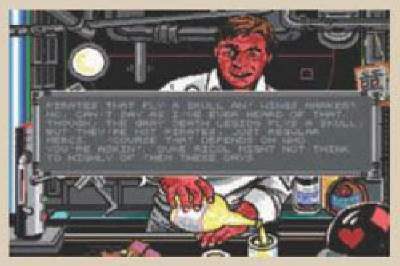
CGA (COLOR GRAPHICS ADAPTOR – 1981)



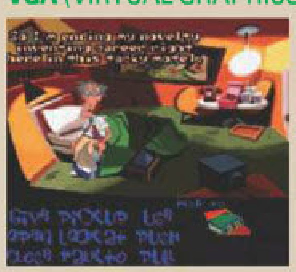
CGA was IBM's first attempt at a colour graphics standard. As it wasn't designed with gaming in mind, it lacked facilities such as sprites or smooth scrolling. The most common gaming mode consisted of 320x200 pixels and a fixed palette of either cyan and magenta or blue or red, green and yellow plus one definable colour. In 1984, Boy George wasn't the only person dreaming in red, gold and green. For better or worse, these limitations gave CGA graphics a look that was instantly recognisable.

EGA (ENHANCED GRAPHICS ADAPTOR – 1984)

Things began to perk up for PC gamers when IBM introduced the EGA standard. EGA allowed a total of 16 on-screen colours from a palette of 64; an improvement over CGA but still slightly gaudy-looking. The most common gaming mode had 320x200 pixels, although some higher resolutions were available. EGA was entirely backwards compatible with CGA.



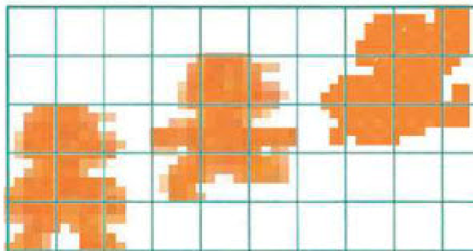
VGA (VIRTUAL GRAPHICS ADAPTOR – 1987)



CGA was garish, EGA was decent, but with the introduction of VGA, IBM PC compatibles started to pull ahead of most other platforms of the time. Like CGA and EGA, the setup was simple as there were no fancy sprites or other hardware trickery of competing platforms such as those by Commodore or Atari. For gamers, the appeal of VGA lay in its excellently specified 256-colour mode that had access to a palette of 262,144 colours. VGA was backwards compatible with CGA and EGA.

Project

Super Mario World



PIXEL

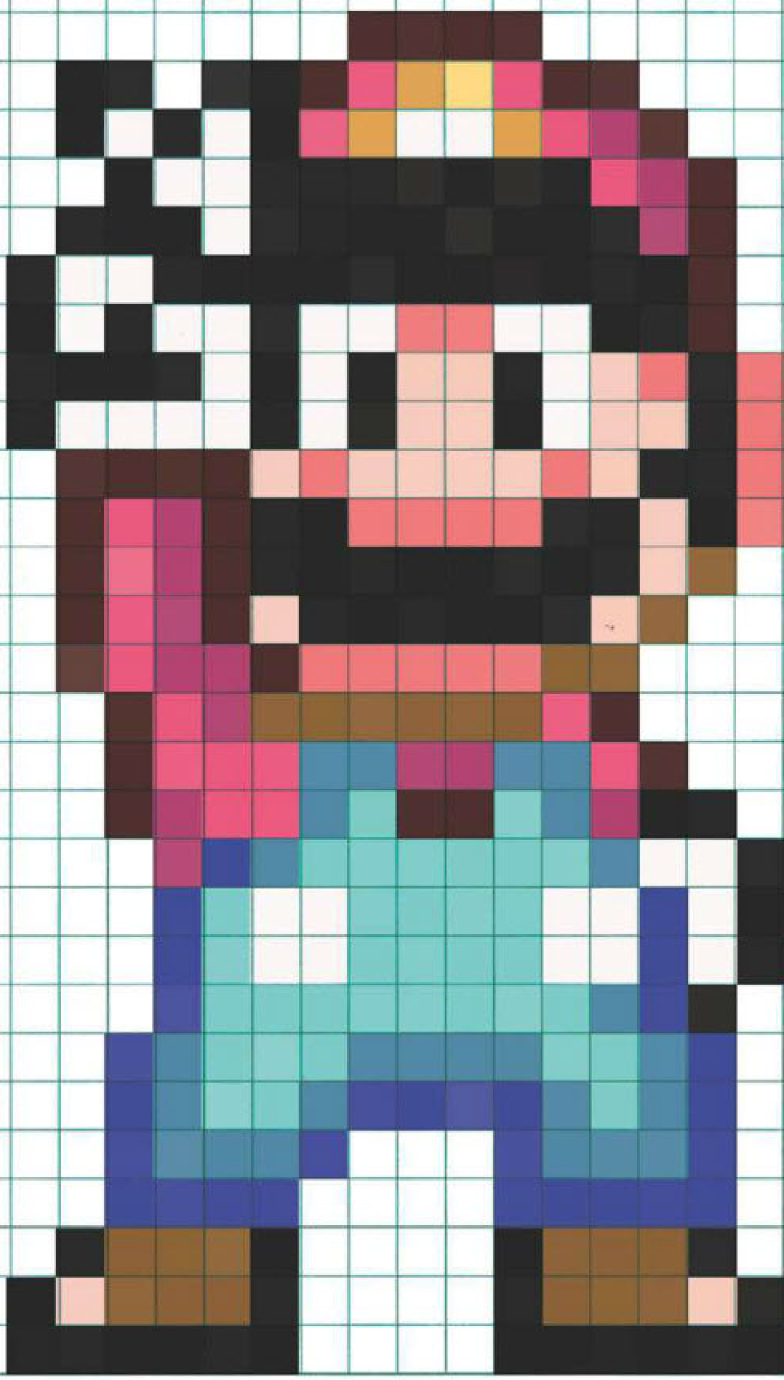
SPRITES ARE ONE OF THE GREATEST INVENTIONS OF THE 21ST CENTURY AND IN A NEW SERIES, RETRO GAMER LOOKS AT THE MANY CHARACTERS AND ENEMIES THAT MAKE CLASSIC GAMES SO MEMORABLE

With its abstract imagery, beautifully designed levels and stunning gameplay, *Super Mario World* remains among the upper echelons of 16-bit platforming. Hell, for many it's the epitome of 16-bit platforming and has never been bettered by any other 2D platformer since.

An initial launch title for Nintendo's SNES, *Super Mario World*, along with fellow launch games *F-Zero* and *Pilotwings* immediately set a new standard for 16-bit gaming and proved that Nintendo was more than capable of muscling in on a market that was primarily being dominated by the Amiga, Mega Drive and Atari ST.

While the SNES's powerful technology was able to inject Mario and Luigi with far more personality than they had ever boasted on the NES, Shigeru Miyamoto ensured that just as much care and attention was given to the many adversaries that the two Mario brothers faced. As a result, *Super Mario World* is filled with all manner of cute and cheerful foes, from the generic Koopa turtles of old to the new flying Paragoombas and Dino Torch.

To get a true taste of *Super Mario World*'s exquisite sprite design, you need only look across to the following page…



JUST THE FACTS

- Has sold over 20 million units in total.
- Is known as *Super Mario Bros 4* in Japan.
- Has been re-released on the Game Boy Advance, Virtual Console and as part of *Super Mario All-Stars* on the SNES.
- It was originally a pack-in game with American and European Super Nintendos.
- Yoshi makes his first appearance in *Super Mario World*.
- All the music in *Super Mario World* was composed on an electronic keyboard.
- A utility called Lunar Magic allows you to alter certain aspects of the *Super Mario World* ROM.
- *Super Mario World*'s direct sequel was *Super Mario's Wacky Worlds* and was supposed to appear on the CD-i.

PERFECT



Mario First Appearance: *Donkey Kong*

Luigi First Appearance: *Mario Bros or Wrecking Crew*

Princess Peach First Appearance: *Super Mario Bros*

Bowser First Appearance: *Super Mario Bros*

Morton Koopa Jr First Appearance: *Super Mario Bros 3*

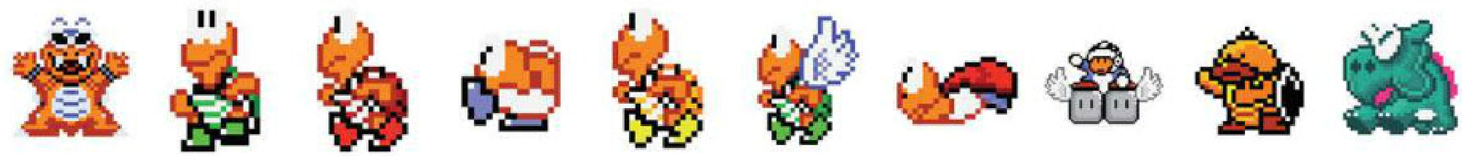
Lemmy Koopa First Appearance: *Super Mario Bros 3*

Iggy Koopa First Appearance: *Super Mario Bros 3*

Ludwig Von Koopa First Appearance: *Super Mario Bros 3*

Larry Koopa First Appearance: *Super Mario Bros 3*

Wendy O Koopa First Appearance: *Super Mario Bros 3*



Roy Koopa First Appearance: *Super Mario Bros 3*

Green Koopa Troopa First Appearance: *Super Mario Bros*

Red Koopa Troopa First Appearance: *Super Mario Bros*

Blue Koopa Troopa First Appearance: *Super Mario World*

Yellow Koopa Troopa First Appearance: *Super Mario World*

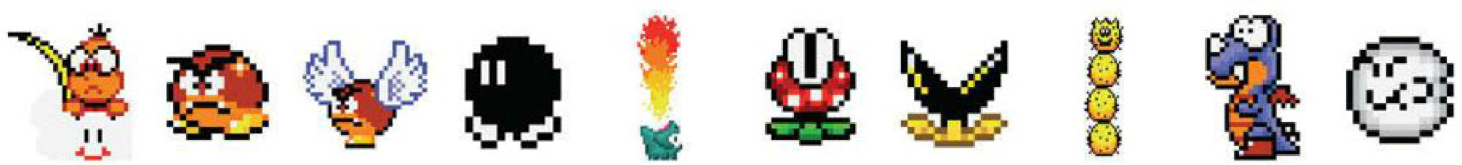
Flying Koopa Troopa First Appearance: *Super Mario Bros*

Super Koopa Troopa First Appearance: *Super Mario World*

Flying Hammer Bros First Appearance: *Super Mario World*

Sumo Brothers First Appearance: *Super Mario World*

Dino Rhino First Appearance: *Super Mario World*



Lakitu First Appearance: *Super Mario Bros*

Goomba First Appearance: *Super Mario Bros*

Flying Goombas First Appearance: *Super Mario Bros 3*

Bob-Omb First Appearance: *Super Mario Bros 2*

Dino Torch First Appearance: *Super Mario World*

Jumping Piranha Plants First Appearance: *Super Mario World*

Muncher First Appearance: *Super Mario Bros 3*

Pokey First Appearance: *Super Mario Bros 2*

Rex First Appearance: *Super Mario World*

Boo First Appearance: *Super Mario Bros 3*



Ninji First Appearance: *Super Mario Bros 2*

Magi-Koopa First Appearance: *Super Mario World*

Big Boo First Appearance: *Super Mario World*

Fishing Boo First Appearance: *Super Mario World*

Eeries First Appearance: *Super Mario World*

Cheep-Cheep First Appearance: *Super Mario Bros*

Blurp First Appearance: *Super Mario Bros*

Wiggler First Appearance: *Super Mario World*

Porcu-Puffer First Appearance: *Super Mario World*

Urchin First Appearance: *Super Mario World*



Dolphin First Appearance: *Super Mario World*

Torpedo Ted First Appearance: *Super Mario World*

Spiny First appearance: *Super Mario Bros*

Spike Top First Appearance: *Super Mario World*

Yoshi First Appearance: *Super Mario World*

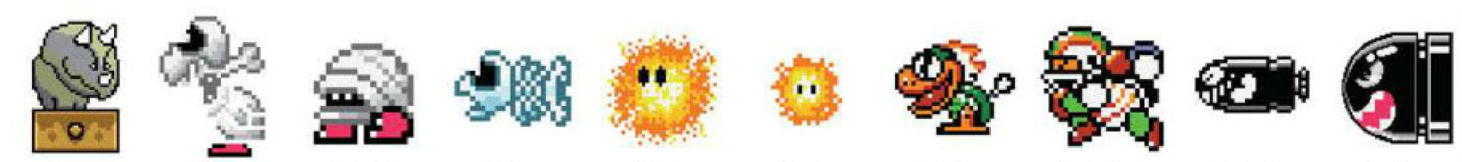
Mega Mole First Appearance: *Super Mario World*

Swooper First Appearance: *Super Mario World*

Blargg First Appearance: *Super Mario World*

Thwomp First Appearance: *Super Mario Bros 3*

Thwimp First Appearance: *Super Mario World*



Reznor First Appearance: *Super Mario World*

Dry Bones First Appearance: *Super Mario Bros 3*

Bony Beetle First Appearance: *Super Mario World*

Fishbone First Appearance: *Super Mario World*

Hothead First Appearance: *Super Mario World*

Lil' Sparky First Appearance: *Super Mario World*

Mecha-Koopa First Appearance: *Super Mario World*

Charging Chuck First Appearance: *Super Mario World*

Bullet Bill First Appearance: *Super Mario Bros*

Banzai Bill First Appearance: *Super Mario World*

THE HISTORY OF EXCITEBIKE

Stuart Hunt takes one of Nintendo's oldest racing series for a spin, and on his travels got to ride pillion with two of the programmers who helped create its highly regarded instalment for the N64

While *Hang-On* served up the usual shot-burst arcade thrills we'd later come to expect from Sega, Nintendo's earlier take on motorbike racing, despite lacking any kind of interesting hero and narrative, was also typical of its developer's brand of fun, accessible yet innovative videogames. But the similarities between these two racing titles don't end there: were you aware that *Excitebike*'s history also has a link to the arcades? You were? Damn!

Designed by Shigeru Miyamoto and his R&D1 internal development team, and debuting as a launch title for the Famicom in 1984, *Excitebike* was a humble-looking side-scrolling racing game in which players could experience the exhilarating world of motocross. Controlling a little nondescript motocross motorcyclist in white and red leathers, players competed in the completely fantastical Excitebike Championship. Split into three different game modes, dubbed Selection A, Selection B, and Design in the game, *Excitebike*'s first mode saw players competing in a solo race against the clock, and progression resting on reaching the finishing line within a time that would see your little rider place third or higher on the winner's podium. Each course ran for two laps – so essentially looped once – and all were primed with hills and jumps to fly off and obstructions, such as hurdles and gravel pocks, to avoid.





» [FDS] The *Vs Excitebike* games also featured a great little bonus stunt round.



» [Arcade] *Vs Excitebike* featured slightly better graphics and new, gobsmacking animations like this…

Despite its functional visuals and simple gameplay, for its day *Excitebike* actually featured some great presentational touches, from the cameramen on the sidelines capturing the jumpy action to the current session's high score being displayed in-game against the stadium barriers. This subtle layer of depth was also true for the game's distinctive control system.

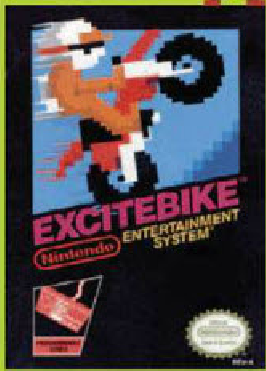
With all the tracks in the game featuring four lanes, the player could alter their pitch using the y-axis on the D-pad, while the A and B buttons worked as independent accelerators, with the B button offering faster acceleration but at the cost of seeing your bike's engine overheat from exhaustion and losing time as you waited patiently for it to cool down again. A sort of precursor to boost panels, the game's tracks also featured arrows that, when ridden over, would automatically cool the engine down, allowing skilled players to chain long periods of heightened acceleration together. This mechanic helped to bake a subtle sense of strategy into *Excitebike*'s races, and also made it an excellent time-attack game as players tried to beat their best times by eking as much bonus speed from their engine as they could without it cutting out from exhaustion. And there were even more layers to be found in *Excitebike*'s gameplay too, as the position of the bike, the angle and speed at which you took off from ramps, and ensuring that you always landed on both wheels could also help shave seconds off your finishing time.

Excitebike's second mode simply upped the challenge by throwing an endless convoy of computer-controlled bikers into the mix. Ramming into the back of a rival biker would send you spinning off the track, while baiting rival racers to fly into the back of you would do the same to them – but oddly offer very little benefit to the outcome of the race. In both modes players were given the choice to race on any of the five tracks in the game – effectively allowing them to start at any point – but only after first proving their mettle by coming third place or better in a preliminary race on their chosen track.

The final and probably most significant mode that Nintendo added to *Excitebike* was undoubtedly its track editor. Considered to be the earliest example of one ever seen in a home videogame, this mode allowed players to design and race their own tracks and play them solo or with computer competitors, in principle giving the game eternal longevity. In Japan, because of this *Excitebike* was made compatible with the Famicom Data Recorder peripheral, which allowed players to save their tracks on a cassette tape and replay them whenever they wished. However, as the device never found international release, gamers outside Japan were left with no way to save their custom tracks, losing them as soon as they turned off their machines, despite the game giving you the option to save, which is surely rubbing salt into the wound.

Shortly after *Excitebike*'s release in Japan, Nintendo released an arcade version of the game. Titled *Vs Excitebike*, its name came from the fact that it was released on Nintendo's Vs System arcade platform. Prior to the launch of the Famicom in North America, Nintendo was thinking up ways to help generate interest for a new console in the US. Despite the console performing well in Japan, Nintendo felt that many Western gamers were still harbouring anxiety toward games consoles following the console crash of 1983, and so turned its gaze to the profitable arcade market as a way to gently coax them back. Nintendo's plan





IN THE KNOW

- » **PUBLISHER:** NINTENDO
- » **DEVELOPER:** NINTENDO R&D1, LEFTFIELD PRODUCTIONS, MONSTER GAMES
- » **PLATFORM:** NES, ARCADE, SNES, N64, GBA, WII
- » **RELEASED:** 1984-2010
- » **GENRE:** RACING

» [NES] The original game allows only racing solo or against computer-controlled opponents.





» [Wii] *Excitebots* is by far the oddest instalment in the series. And yes, that is a robotic turtle on four wheels taking a penalty.



TIMELINE

- **EXCITEBIKE**
  Format: NES
  Released: 1984
- **VS EXCITEBIKE**
  Format: Arcade
  Released: 1985
- **VS EXCITEBIKE**
  Format: Famicom Disk System
  Released: 1988
- **BS EXCITEBIKE BUN BUN MARIO BATTLE STADIUM**
  Format: Super Nintendo (Satellaview)
  Released: 1997
- **EXCITEBIKE 64**
  Format: N64
  Released: 2000
- **EXCITEBIKE-E**
  Format: GBA
  Released: 2002



was to design an arcade board based on Famicom technology. Dubbed the Vs System, the boards would allow arcade goers to experience coin-op versions of Famicom games without the need to purchase a console.

The thinking was that those who enjoyed playing Nintendo games in arcades would be more inclined to purchase a NES when they discovered that nigh-on identical versions were available on its new console, and around two dozen early NES titles consequently found an arcade release on the Vs System – many benefiting from slightly better visuals and smoother animation. To the more apathetic gamer, however, these differences would be negligible and, as such, the NES would be perceived to be offering arcade-faithful versions of these arcade games.

Vs Excitebike (simply titled *Excitebike* on its splash screen) did differ in some ways to the original release, though. The arcade game featured no track editor, but did boast smoother animation and marginally crisper visuals. It also included a neat Evel Knievel-style bonus stage in which players jumped over trucks to earn bonus points – the only version of the game to ever feature this bonus. The way players progressed through the game also differed, with seven tracks to tackle – two more than the NES version – and players racing one lap of each track solo, only needing to come in fifth place to qualify, and then race two laps of the same track against computer competitors. *Vs Excitebike* also restricted the original game's track selection, only permitting players to start from the second and third tracks, denoted by choosing between three difficulty levels at the start of the game.

Excitebike became one of the bestselling launch titles for the Famicom, and its success in Japan even saw it ported to obscure Japanese computers like the NEC PC88 and Sharp X1 courtesy of Hudson Soft. So, with the game's popularity sealed, and Nintendo's Famicom Disk System add-on two years into its release, Nintendo understandably saw *Excitebike* as another of its esteemed titles to add to the Disk System catalogue. Released exclusively on the ill-fated disk format, *Vs Excitebike* was a home iteration of the arcade game. However, to consider it an straight arcade port is a bit of a misrepresentation, as it actually features new game modes that weren't present in the arcade version. While 'Original Excite' was basically just the seven-track arcade version of the game – complete with the truck-jumping bonus round – two new modes also appeared. The first, Vs Edit, made great use of the storage capacity of Famicom disks, allowing users to finally design and save up to four track slots straight onto the disk, while Vs Excite was the most notable as it finally gave two players the chance to go head-to-head in either a battle or free race in the game.

In keeping with *Excitebike*'s odd connection with being released on short-lived and little-known Nintendo hardware, the next game in the *Excitebike* series is regarded as a bit of a lost Nintendo classic. Released on the Satellaview, a modem and download service for the Super Nintendo that only found release in Japan, *Mario Excite Bike* – or, to give it its full, ridiculous and proper title, *BS Excitebike Bun Bun Mario Battle Stadium* – was a colourful download-only SNES title released in 1997 that blended together the worlds





» [FDS] The original NES version featured a track editor but no way for users to save their designs without purchase of a costly add-on. You could argue that the FDS version didn't remedy that all that much.

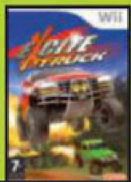




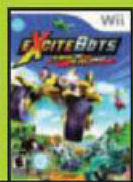
EXCITEBIKE CLASSIC NES SERIES
Format: GBA
Released: 2004



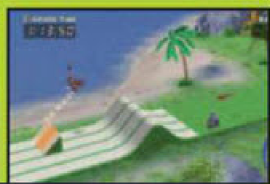
EXCITE TRUCK
Format: Wii
Released: 2006



EXCITEBOTS: TRICK RACING
Format: Wii
Released: 2009



EXCITEBIKE: WORLD RALLY
Format: WiiWare
Released: 2009



NINTENDO VS SYSTEM: A BRIEF HISTORY



» An original Vs System cabinet, particularly the rare DualSystem version, remains an uncommon item in the collections of even the most ardent Nintendo fan.

As we touched on in the article, a number of popular Nintendo games, including *Duck Hunt*, *Dr Mario*, *Punch-Out!!* and *Super Mario Bros*, found their way to Nintendo's Vs System arcade format. The hardware, which launched in 1985, was based on Famicom technology with the purpose that Nintendo could easily transfer its early NES titles to the arcades, thus the Vs System can be seen as the precursor to Nintendo's more popular PlayChoice and PlayChoice-10 arcade formats. Nintendo released a few different iterations of the Vs System, such as the hard-to-come-by DualSystem, which came in upright and sit-down versions, and the UniSystem – so called because the Duals featured two monitors while the Unis only featured one. If you squint really hard into a magnifying glass you can see the three different variations showcased here on this early arcade flyer.

of *Super Mario Kart* and *Excitebike* to great effect. Sharing more DNA with *Excitebike* than *Mario Kart*, the game substituted the nondescript racers from the original with well-known Mario characters, and the game itself played exactly like the original *Excitebike* with just a few minor differences.

After selecting your character, players are given an undisclosed amount of time with which to complete a certain number of laps of a stage. With this section complete, it then throws competitors into the mix with a race to the finish line, complete with *SMK*'s annoying elastic band physics. Perhaps the most notable tweak made to the *Excitebike* gameplay in *Mario Excite Bike* is the addition of gold coins in the races. At points in the track, clusters of coins can be found, and if five coins are collected players are awarded unlimited engine coolant, allowing them to thrash the hell out of their motorbike until they crash without fear of seeing it overheat. While the mechanic does make the game a lot easier, as well as toning down that nice sense of strategy from the original, it still proves an enjoyable addition to the gameplay and offers a slightly different approach to the game, which fans will likely welcome.

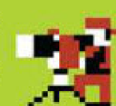
As the BS games were made download only, it was quite common for Nintendo to release the games in parts, and *Mario Excite Bike* is no exception. Four versions of the game were released, with each simply adding a new track and playable character. Though obscure, the *Bun Bun* games prove great additions to the series and thankfully are available for fans to experience through the magic of emulation. But it beggars belief why the four parts didn't just get bundled together on a SNES cart and released into retailers. The game would have undoubtedly proven to be another SNES classic, of that we are sure.

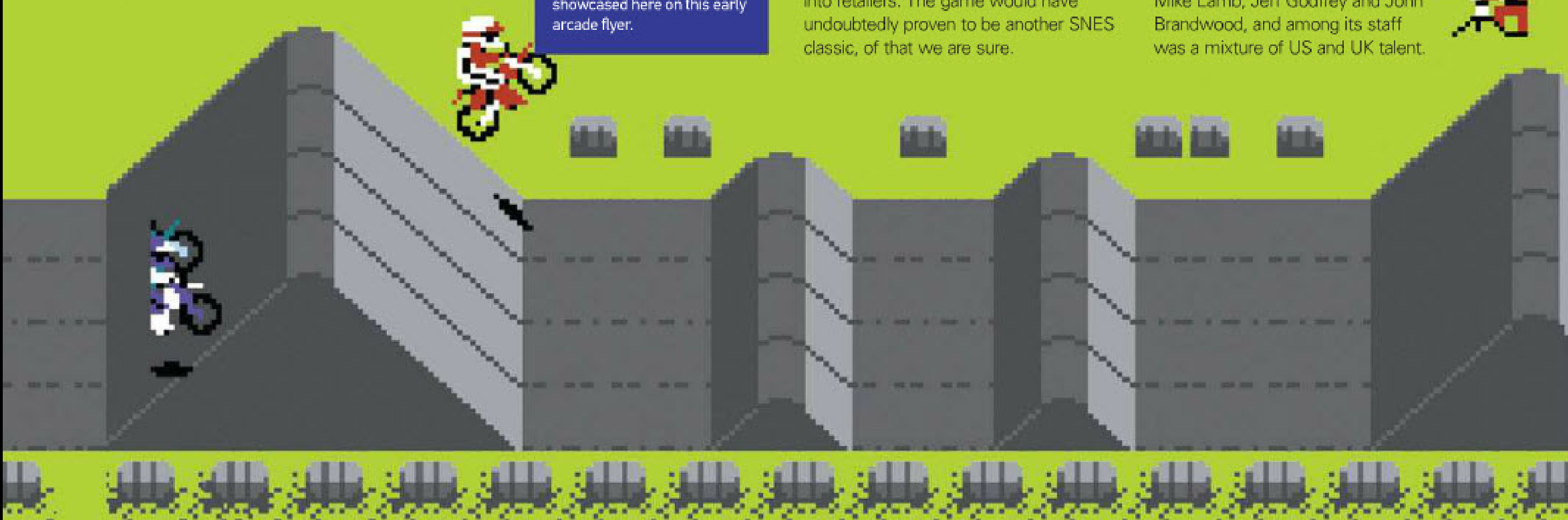
Following the sly release of *Mario Excite Bike* in Japan, Nintendo would then decide to eke even more mileage from the original NES game when it released two versions of the game on the Game Boy Advance. Marking the first and only time that the series has gone portable, the first GBA release would once again appear on another obscure piece of Nintendo hardware, namely the Nintendo e-Reader – which only saw release in Japan and North America – and the second was part of Nintendo's Classic NES Series.

The e-Reader cards were essentially just a GBA version of the Sega Cards released for the Sega Master System. When scanned into your GBA using the e-Reader add-on, the cards would unlock items, levels and secrets in certain games. A small selection of NES titles were also released on the device, and *Excitebike* – or rather *Excitebike-e*, as it was dubbed – was one of them.

So to all but a small handful of people in Japan, it seemed like *Excitebike*'s legacy had ended with the NES, with many fans unaware that Nintendo had returned to the series on the Super NES. Thus many were surprised when the company announced that a brand new *Excitebike* game would be appearing on the N64, some 16 years after the release of the first game.

Excitebike 64 was the first true successor to *Excitebike* – a game that wasn't a spin-off, or a revision, but a true sequel. Regarded as a triumph, *Excitebike 64* dazzled N64 owners when it was released thanks to its great balance of simulator and arcade racing, satisfying physics and smorgasbord of game options. The game was developed by a small California-based studio called Left Field Productions, which was founded by industry veterans Mike Lamb, Jeff Godfrey and John Brandwood, and among its staff was a mixture of US and UK talent.





LITTLE-KNOWN NES RACERS

We've no doubt that most of you are familiar with Excitebike, but here are a few NES racing titles that you might not be as familiar with

MACH RIDER

Developer: Nintendo **Year:** 1985



Also finding release on Nintendo's Vs System arcade board, this into-the-screen motorbike racing shoot-'em-up hybrid plays very similarly to Sega's *Hang-On* series. Like *Excitebike*, it featured a series of different play modes including a 'battle course', which tasked players with driving around blasting all and sundry; endurance races saw players racing to reach a certain distance within a time limit; and even a track designer. It also came packed with a story, albeit a loose one – something about a guy on a motorcycle who looks like an American quarterback embarking on a road trip to destroy things called Quadrunners. Given the strong resemblance of the game's hero Mach to Captain Falcon – more visible in the Vs iteration of the game – and the similar futuristic setting and perspective, the game is also considered to be a precursor to *F-Zero*.

RAD RACER

Developer: Square **Year:** 1987



Designed by a few of the guys at Square who were responsible for bringing *Final Fantasy* to the world, *Rad Racer* (aka *Highway Star*) was the NES's answer to *OutRun*, a glorious-looking checkpoint racer that scrolled towards the player at a blistering pace. As a result of it being one of the slickest racers on the console, the game became a popular game for the NES, particularly in North America following that famous scene in the film *The Wizard* in which a kid with bad hair plays the game using the Power Glove – despite the fact that the Power Glove ultimately proved as responsive a control device as a solar-powered dead parrot. In Japan the game was also compatible with the extremely obscure Famicom 3D System – basically a pair of 3D goggles – while the rest of the world had to make do with a pair of cheapo cardboard ones instead.

F-1 RACE

Developer: Nintendo **Year:** 1984



If *Mach Rider* is the NES version of Sega's *Hang-On*, and *Rad Racer* is basically *OutRun*, *F-1 Race* is clearly Nintendo's stab at replicating Namco's *Pole Position*. This decent NES racer by Gunpei Yokoi is a challenging game that would spawn an oddball series of sequels. The series received two Famicom Disk System spin-offs, including *Famicom Grand Prix: F-1 Race*, and the odd-sounding *Famicom Grand Prix II: 3D Hot Rally*, which also made use of the Famicom 3D System. Both FDS games were compatible with the Disk Fax, a weird add-on that allowed sad people to fax off their high scores to Nintendo. The original NES iteration was later ported over to the monochrome screen of the Game Boy, where it gained most success and popularity thanks to it being boxed with the handheld's Four Player Adapter add-on and featuring various cameos of popular Nintendo characters.

> **"As a developer, there are few things more stressful than having Miyamoto critique your work!"**

The relationship that led to this long-awaited sequel was actually struck way before a new *Excitebike* game was even considered by Nintendo. After finishing the PSone basketball title *Slam 'N' Jam*, Left Field began work on a new ice hockey simulator. However, early on into the game's production the project was cancelled. Not wanting to waste the progress that it had made on the project so far, the decision was made to put the assets into a new basketball demo and then pitch it out to a few publishers. Impressed by what it saw, Nintendo eventually picked up the project and the N64 basketball sim *Kobe Bryant In NBA Courtside* was the result. It also took an investment share in the company, making Left Field an exclusive developer for Nintendo. When *Courtside* then went on to sell well for the console, Nintendo went back to Left Field to ask what project the team would like to work on next. After bouncing a few ideas around inside the company, Left Field eventually pitched the idea of a motocross game for the N64.

"Well, when we started work on the game, there was no mention of *Excitebike* at all," reveals programmer Ben Stragnell, who had joined Left Field from the UK just prior to the *NBA Courtside* project. "As far as we were concerned, we were just trying to make a really fun motocross game. We actually started out with a much more realistic physics-based game, and just found ourselves naturally moving toward a more 'fun' style. The ability to slightly steer the bikes in the air, for instance, is completely unrealistic, but made the game much more playable. I think that not initially knowing that the game was going to have the *Excitebike* name attached to it was probably liberating for us. We were free to just make a fun game, without trying to capture a specific look and feel. Once we were a good distance into the project, the possibility of Nintendo being willing to attach the *Excitebike* name came to light. This was something that Miyamato himself would have to agree to, and so we had a meeting with him. As a game developer, there are few things more stressful than having Miyamoto play and critique your work! As I recall, we got off fairly lightly – he was generally pleased with how the game was shaping up, and had only a few suggestions to offer."

With Nintendo now agreeing to attach the *Excitebike* name to the project, the pressure on Left Field was immediately amplified, but then so was the enthusiasm felt towards the project by the team.

"It was a huge deal for Left Field," remembers programmer Sam Baker,





» [N64] It might look brown and muggy, but don't let that put you off – *Excitebike 64* is one of the best games in the *Excitebike* series. Just ask IGN.



» [Wii] The vehicles may have doubled their wheels, but the excitement and essence of the series remain in *Excite Truck*.

who joined the company from the UK a few months into development. "It was something we were all really enthusiastic about and obviously it was a franchise with a big fan base and lots of potential. A *Kobe Bryant* sequel had guaranteed sales but the fun project, from my point of view, was *Excitebike*."

Having already set out to make the best motocross racing game it could, and with one successful N64 sports title already under its belt, the team knew it could deliver a game that would live up to the series' bloodline and once again meet Nintendo's high expectations.

"Nintendo is a relatively hands-off company. They place a lot of trust in external developers to do the right thing," says Stragnell when asked whether Nintendo's involvement in the game changed once the *Excitebike* name was attached. "We'd established a pretty good working relationship with them on *NBA Courtside*, and so I think we were both happy to maintain the status quo. We continued to work with our previous producers at Nintendo, and they offered us a lot of feedback and suggestions – but I think most of the look and style came from Left Field."

Though Ben had got fairly comfortable with the inner workings of the N64 through his time working on *NBA Courtside*, there were still a number of programming hurdles that the team had to jump. And most of these concerned the game's frame rate.

"Fitting a game into the available RAM and maintaining a good frame rate are always challenges – no matter what platform you're developing on, or what game you're writing," says Stragnell. "I had to completely rewrite our 3D engine and tools because the rendering requirements were so different from our previous game. In order to make the game nice and fast, I also had to impose quite a few restrictions on the level design. This made the designers' work difficult, but they rose to the challenge."

Despite taking a giant leap from 8-bit 2D side-scrolling racer to 64-bit 3D polygon-pushing, *Excitebike 64* still managed to capture the spirit of the original game. As well as mirroring the original's great visuals, track design, controls and OTT physics, there were also a clutch of excellent game modes for players to get stuck in to. The main game was split into three parts: Time Trial, Exhibition, and a Season mode that saw riders working their way through 20 tracks, gradually unlocking them as they go. There was also the welcome return of a level editor, and Stragnell even found time to program a bespoke NES emulator for the game so that a copy of the original NES game could be bundled in as an unlockable.

And the good aspects of the game just continued, with *Excitebike 64* becoming the first game in the series to have a heavier emphasis on stunts, as well as an excellent multiplayer mode that allowed up to four players to battle it out in the game's Exhibition mode or on a series of party game-style Special Tracks. Comprising the games Uphill Climb, Desert, Soccer and Stunt Course, the Special Tracks proved a popular addition, serving as a nice diversion from the standard racing.

Excitebike 64 also made use of the N64's Expansion Pak, a small add-on that slotted into the top of the N64 to give it a further 4MB of memory. Stragnell explains how the team made use of the extra memory: "The N64 was a nice machine, although it did have a number of fairly brutal limitations, the texture cache being the most problematic. I'd learned a fair amount from working on the *NBA Courtside* engine, and so by the end of *EB64* we were pushing the hardware a lot more effectively. We did support the 4MB Expansion Pak, although it was entirely optional. The extra memory allowed us to support hi-res mode. Unfortunately, it didn't make the rendering hardware any faster, so there was a frame rate penalty. I personally preferred to play the game in standard res for this reason."

Excitebike was highly praised by most reviewers on its release, with

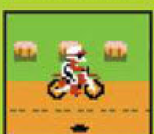


THE BASICS

Our indispensable guide showing you three measly ways to help shave valuable seconds off your best time in *Excitebike* and impress your friends – like they would care.



Listen to the game
Using eyeballs to keep tabs on your rising temperature gauge can be distracting. Thankfully, Nintendo has it covered – just listen out for your engine, which will start whining when it's seconds away from overheating.



Watch your landing
The orientation of your bike is vital. Always ensure that you land with both wheels hitting the ground, which will help ensure the best possible acceleration when coming out of a landing.



Memorise speed arrows
These handy panels, which appear on the track, will automatically cool down your engine on contact. Memorise where they appear on the tracks to help ensure that you hit as many as possible.

> **"The series has always proved important in generating interest for Nintendo consoles"**

many hailing the game as an impressive achievement that breathed new life into the franchise. Indeed, the game currently has a score of 9.7 on IGN, one of the highest ever awarded by the games website.

"The feedback was interesting," remembers Baker. "We did get some great reviews – IGN, for example. Some reviewers didn't appreciate the gameplay as much as I did, which of course is disappointing. Then we got feedback from Nintendo when we met with them at E3 following the release. That was the first time I met with Miyamoto, and it was a little bizarre. He was in a meeting with us and he was very clear that the game lacked the kind of reward that they'd implemented in *Super Mario 64*, where Mario dances around with a camera pan each time he finds a star. He felt that was important and that seemed to be the main focus of the meeting. He didn't think our race results screen provided enough drama. To be fair, I'm pretty sure we had a fist pump and a camera pan around the winning racer at the end of the race, but it definitely wasn't considered adequate."

Despite the game's lack of a colourful celebration screen showing your rider jumping for joy and spinning on his head, it's clear that Nintendo was pleased with the critical and commercial response to the game. With Left Field having successfully revived the franchise for both an old and new generation of gamers, Nintendo then set about keeping it at the fore to stop it from fading back into obscurity. In 2002, however, Left Field decided to part ways with Nintendo, buying back the publisher's stake in the company to work on multiformat software.

Looking for a new developer to take the reins, Nintendo enlisted the help of another US indie developer, Monster Games, to develop an '*Excite*' launch title for the Wii. The title was to be released alongside the console's North American release and make use of the console's novel motion-sensor controls.

Monster Games' previous output consisted entirely of racing titles, so given that it was the studio's bread and butter, it is little surprise that *Excite Truck* proved to be another fantastic addition to the series – one that would expand it into other areas of racing, transforming the franchise from just lonely old *Excitebike* into the '*Excite*' series.

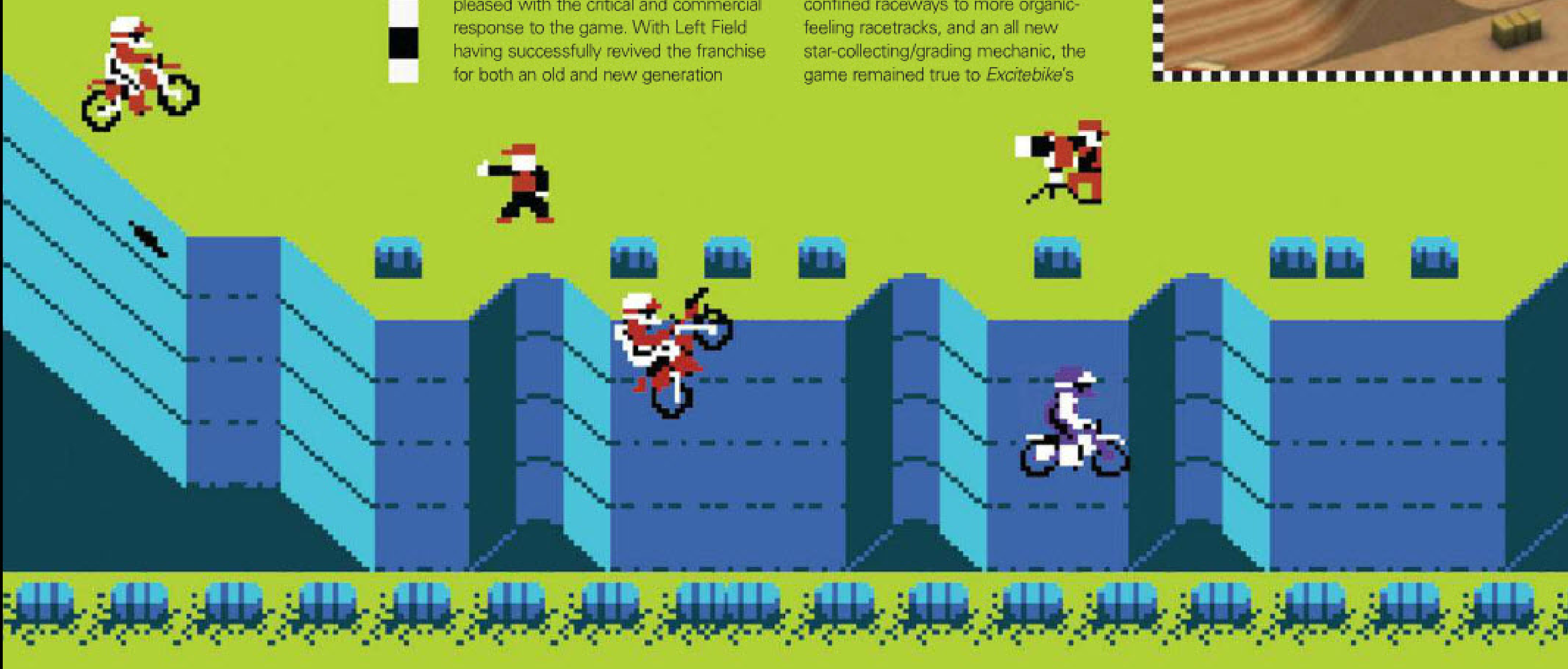
But it would also be a fair assumption that Nintendo had far more input into this project than it had previously with *Excitebike 64*, owing to the *Mario 64*-style nature of its gameplay, which saw players racing against the clock to collect up a set number of stars to unlock new trucks and tracks in the game.

But despite the aberrant switch from bikes to trucks, a move from confined raceways to more organic-feeling racetracks, and an all new star-collecting/grading mechanic, the game remained true to *Excitebike*'s heritage. *Excite Truck* featured a number of game modes as well as a number of references to the original NES game. It included the return of the boost/overheating mechanic, as well as the helpful cooling spots on the track, represented in this game by pockets of water, and the orientation of the trucks in the air was also important, with players trying to land on four wheels and time boosts before a jump to afford added height. And while *Excite Truck* didn't feature a track editor per se, the game did feature power-ups that allowed players to deform the terrain in the middle of races.

Given the success of *Excite Truck*, a sequel was inevitable. So where was Nintendo to go next with the franchise? *Excite Plane*? *Excite Truck 2*? *Excite Boat*? *Excite Bike*? Wait, hang on…

Well, the answer was one that no sane person would have seen coming: robot vehicles themed on animals and insects. Thankfully opting to go with





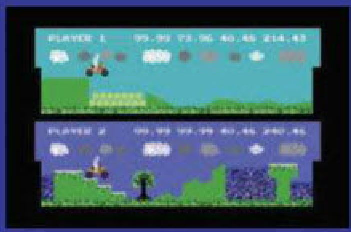
SIMILAR GAMES

Love Excitebike? Then here are a few more titles that might be of interest to you



Joe Danger

Help the game's titular daredevil make his comeback to the world of stunt racing in this stunning love letter to retro games. Boasting a great art style, tons of replay value and some great track designs, this is an impressive debut by indie developer Hello Games.



Kikstart II

Thanks to its mix of great visuals, addictive gameplay, split-screen racing and a life-consuming construction kit, Shaun Southern's *Kikstart* sequel became the most popular motorbike racing game on microcomputers in Eighties England.



Trials HD

RedLynx's glorious-looking XBLA title is all about timing, quick reflexes and skill. Rather than just race to the checkpoint, players must complete a series of challenging obstacle-strewn courses in as fast a time – and with as small a number of 'faults' – as possible.



Enduro Racer

Perhaps noting the popularity that *Excitebike* was gaining on the NES, Sega transformed its sprite-scaling dirt bike coin-op *Enduro Racer* into an isometric racing game for its Master System version. The result is a game that isn't as good but is still pretty playable.

» [Wii] WiiWare release *Excitebike: World Rally* is one of the more orthodox sequels to the NES original.



the title of *Excitebots: Trick Racing*, rather than the suspect-sounding *Excite Creature-Themed Robot Vehicles*, the game proved to be another excellent addition to the series, but one clearly with younger gamers in mind. Developed again by Monster Games, *Excitebots* retained the same look and controls of *Excite Truck* but differed mainly by substituting the star-collecting with players having to perform tricks, stunts and various mini-games during races. It sounds absolutely batty, but somehow, thanks to the game wrapping all these elements up in a sensible scoring system, it all comes together, and there's even an added element of *Super Mario Kart*-style combat racing too thanks to a host of offensive power-ups that can be used to give you the edge over your rivals during races. While certainly the most left-field title in the canon – no pun intended – *Excitebots* maintained the series' impeccable record for quality and is once again considered a great addition to the series. Unfortunately, though, the game has yet to be released in Europe, so it's likely that only keen importers will have experienced it.

The final entry in the *Excitebike* series so far saw Nintendo and Monster Games redress the balance a little with a title that harked right back to the original 1984 game. Released as a downloadable game on WiiWare, and featuring a familiar top-down perspective and dual acceleration control system, *Excitebike: World Rally* marked a return to the time-trial racing of old. In fact, perhaps the only thing that Monster Games carries over from its previous *Excite* titles to *World Rally* is the grading system, which here finds players progressing to the next race by achieving a certain rank rather than a time – though it's the exact same principle – and the real-life setting for the racetracks. Apart from that, this was just a decent revamping of the original *Excitebike* that makes use of the Wii's motion controls.

So that about sums up our retrospective look at the *Excitebike* series. While it's a franchise that has never been held in quite the same esteem by Nintendo as its other racing titles such as *Super Mario Kart* or *F-Zero*, the *Excite* games have always proved important for Nintendo in helping it generate interest in its consoles. The original game proved a popular launch title for the NES, and its eventual sequel went on to become one of the best exclusive racing titles for the N64. The series most recently provided an important launch title for the Wii in North America, and despite its confusing lineage and wildly differing styles and approaches between games, we're sure that Nintendo's purest racing series will continue to play a significant role for the company's consoles for many more games to come.

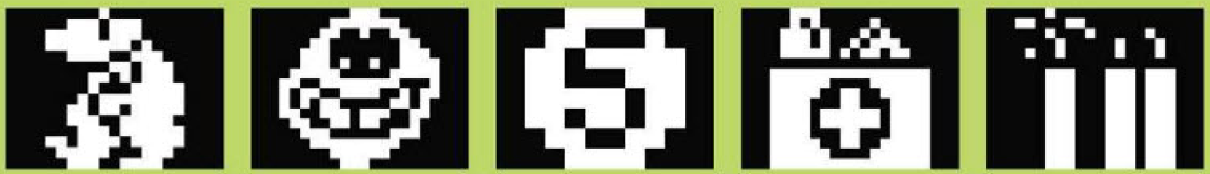


» [SNES] Released exclusively in Japan for the Satellaview, the humorously titled *BS Excitebike Bun Bun Mario Battle Stadium* brought the worlds of *Excitebike* and *Super Mario Kart* together, with great results.



MONTY ON THE RUN

Poor Monty. Banged up for nicking some coal during the miner's strike, he's now on the run after being broken out of Scudmore Prison by his best pal, Sam Stoat. Hounded by the most horrific collection of beasties seen since the last time Miner Willy threw a party, Monty must use all the acrobatic skills he picked up in the big house (no, seriously) to plot his escape route to a little boat to France. Yup, it's another crazy Eighties platform game featuring an anthropomorphic animal, but *Monty*'s one of the best, with plenty of neat touches. Join Craig Grannell as he discovers the best way for a rotund cartoon insectivore to escape the fuzz.



MONTY
Monty Mole is the star of the game. As moles go, he's pretty sprightly – he can fearlessly leap gaps, somersaulting as he does so. Unfortunately, poor Monty can't swim, so avoid having him take a relaxing dip during the game, because doing so will kill him to death.

NASTIES
We're not sure what the recruitment posters for law enforcement look like round Scudmore way, but the local force seems to have cornered the market in demon cops. Monty's foes include disembodied hands, giant wasps and Slimer-like ghosts. Where's a bobby when you need one?

CASH
Once Monty's fled the country, he's intending to become a mole of leisure. Luckily, he has really deep pockets in his tracksuit, and people have rather carelessly left gold coins everywhere. Pick them up to boost your score – and the outlaw mammal's bank account.

BONUSES
Peppered throughout the game are a number of tempting-looking bonuses. Buns are the most common, and Monty can munch them for extra points. Elsewhere, certain objects must be collected in order for the mole to progress, such as the switch at the top of the sewerage works.

DEATH TRAPS
Unfortunately, not every shiny object in the game should be collected. Some explode on contact, which proves hazardous to Monty's health. Others cause a monster to start hunting Monty down. And whoever installed the lift in the Hall of Jow-an needs a damn good talking to…

MEMORABLE MOMENTS

WHY IS IT A CLASSIC?



Moley, moley, moley

To be fair, it's not like there was a dearth of platform games around 1985, but *Monty On The Run* nonetheless stood out. Reasonably hot on the heels of the well-liked *Wanted: Monty Mole*, *Monty On The Run* improved the formula, retaining strange foes and a tough flick-screen platform 'maze', but tightened up the controls and added a bunch of neat extras (and on the C64, you also got Rob Hubbard's fantastic soundtrack, which made it through relatively intact to the CPC release). Also, unlike the *Jet Set Willy* games, the quest seems possible rather than overwhelming.

BEST TIP



Kitted out for freedom

At the start of the game, you get the chance to select Monty's 'freedom kit' from 21 varied items. This might seem a bit of a lark, and you might like the idea of a mole wandering around armed with a floppy disk and laser gun. But there's a catch: select the wrong items and your game abruptly comes to a dead-end at a specific point, one of which is on the final screen – forget your passport and a monster blocks the final exit! So, here's a **Retro Gamer** top tip: pick the jet-pack (2), rope (4), passport (12), gas mask (13) and rum (16), or you'll be sorry.

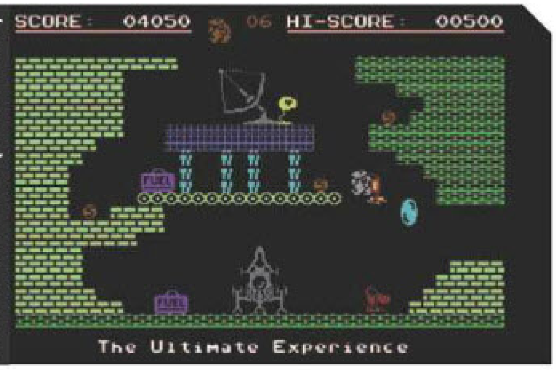
BEST SURPRISE



Beam me up, Moley

Fans of Kirk, Spock and company will no doubt have been happy the first time they explored the house in *Monty On The Run*. Lurking in one of the rooms is a strange pulsating light beam, randomly changing colour. One colour is 'safe', while the others 'beam' Monty clear across the map – and without the safety of a generic-looking mole wearing a red jersey of death. Teleporters also show up in the sewerage works and boat, the former being a particularly nasty one that transports you deep into the enemy-infested escape tunnel if you get caught in it.

BEST MOMENT (PART ONE)



I can see my molehill from here!

Assuming you're not the kind of mole who leaves your jail cell without a trusty jetpack (and, let's face it, you have to be some kind of idiot to not realise you'll need a jetpack at some point during the average day), *Monty On The Run* takes a rather surreal turn shortly after the sewerage works. In an area dubbed 'The ULTIMATE experience' (the all-caps 'ultimate' driving home just how happy developer Peter Harrap was with this section), Monty flies about the place using his jetpack, for a short time matching the airborne manoeuvrability of his foes.

BEST MOMENT (PART TWO)



Sir Clive's (rocket-powered) C5

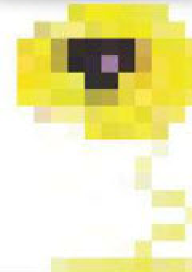
If a jet-packing mole isn't enough for you (what do you want? Blood?), Monty follows up his flying experience with a trip in Sir Clive's C5. Only this isn't your average battery-powered electric vehicle – this one can leap into the air, to avoid conspicuously missing chunks of road. Note that if you're playing the C64 or CPC version of the game at this point, good luck to you, because the section's about a billion times harder than it is on the Speccy – and when you die you go right back to the start. This annoyed us so much we made a real C5 out of card and stamped on it.

CRAZY CONVERSIONS



When is a mole not a mole?

Although designed for the Speccy, *Monty On The Run* found its way to other platforms. The C64 wins out, its version featuring stomping Rob Hubbard tunes and extra background graphics. The CPC omits the Speccy's monochrome graphics, instead preferring eye-searing multi-colour hell, although the game plays okay. The Plus/4 (pictured) gets a brave but cut-down game. And then there's the oddball *Monty No Doki Doki Daisassou* for the Family Computer Disk System, which uses Hubbard's soundtrack, but otherwise replaces almost element of the game – including the main character being a mole.



What the press said… ages ago

C&VG 10/10

Monty On The Run is a worthy successor to the excellent *Monty Is Innocent*. If you're a climbing game fanatic, then this is the game you should get – it's what *Jet Set Willy II* should have been. Don't let your best friend borrow it – you will never get it back!

Zzap!64 90%

The first thing that really impressed me about this game was the incredible piece of music that bursts forth once the program has loaded. Music aside, the game itself is a very good and very tough platform derivative with some excellent new touches to it.

What we think

Tough? Yes. Really tough? Most definitely. Impossibly tough? Not quite. Although Peter Harrap's game comes across as needlessly finicky at times, its fast pace and great graphics (and the soundtrack on the C64 and CPC versions) ensure it's one of the best platformers of its time and worth persevering with.



IN THE KNOW

- **PLATFORM:** ZX SPECTRUM; CONVERTED TO C64, CPC, PLUS/4, FAMILY COMPUTER DISK SYSTEM
- **PUBLISHER:** GREMLIN GRAPHICS
- **DEVELOPER:** IN-HOUSE (JALECO FOR FCD VERSION)
- **RELEASED:** 1985–1987
- **GENRE:** PLATFORM
- **EXPECT TO PAY:** £1+



FROM THE ARCHIVES

RETRO GAMER DIGS UP THE FILES OF THE CLASSIC COMPANIES OF OLD

DMA Design

It created some of the most innovative games of the Nineties, ranging from Lemmings to Grand Theft Auto. Darran Jones speaks to the geniuses behind DMA Design to find out more

Should you care to, it's possible to trace the history of *Lemmings* and *Grand Theft Auto* all the way back to 1983, when a small group of friends would regularly meet up at the Kingsway Amateur Computer Club at Dundee's Kingsway Technical College.

"I used to live around the corner from Dave Jones when I was at school and when we went to the Kingsway Amateur Computer Club he would give me a lift because he was older," recalls Russell Kay, one of DMA Design's original co-founders. "We both had this passion for writing code and games, which fitted well with what we wanted to do. Dave had been approached to write a Spectrum game but did not want to do it himself, so roped me in to help him. He then bought an Amiga and decided that the Spectrum was not for him, so I ended up doing the rest of the game, everything else just followed from there."

By the time that 14-year-old Mike Dailly arrived at the computer club in 1984, Dave, Steve Hammond and Russell had already been there for a good year, where they would play the latest games and discuss their love of programming. They would regularly haunt the local arcade, which in turn inspired the creation of their first game, *Menace* for the Amiga 500.

"We were all shoot-'em-up fans," laughs Mike, when we asked him what games they used to enjoy playing during those early beginnings. "We used to play games like *Alien Syndrome* with two or three of us all playing at once. I actually suspect we spent longer playing games at the arcade than on our own machines."

It was during these meet-ups at the KACC that Dave, the eldest in the group, revealed that he had left Timex and had used his redundancy money to treat himself to an Amiga 1000, a godlike machine to everyone else who was still playing and programming on their ZX Spectrums and Commodore 64s. While the friends would all get together to show off the latest programs they had been working on, it was always Dave and his Amiga that drew the most attention.

Time passed, college was attended and everyone began working on their own projects, some of which – Russell's *Zone Trooper* and Mike's *Freek Out* – would eventually get published. Dave's Amiga project *CopperCon-1*, which had been inspired by his love of Konami's shoot-'em-up *Salamander*, was coming along nicely during this time, and he began looking for a potential publisher. Although Hewson and Andrew Braybrook initially showed a great deal of interest in the project, they wanted it to become the official Amiga version of their hit 8-bit shooter *Zynaps*, but Dave wasn't happy and looked elsewhere.

The Psygnosis Era

That elsewhere turned out to be a Liverpudlian publisher named Psygnosis, and a deal was quickly struck. With an agreement in place and a game to be finished, it was time to think of a name for the budding team of developers/friends that was quickly amassing. As Dave's original choice of Acme was already taken, and he didn't like proposals like Alias Smith And Jones and Visual Voyage, everyone eventually settled on DMA Design,

INSTANT EXPERT

DMA Design was formed in 1989 by Dave Jones, Mike Dailly, Russell Kay, Steve Hammond and Brian Watson.

DMA stands for Direct Memory Access, although Dave Jones would often joke that is stood for Doesn't Mean Anything.

The first game DMA released, *Menace*, was originally known as *CopperCon-1* while Dave was coding it.

Lemmings became a huge hit for DMA and was eventually ported to over 20 different machines, including the Mega Drive, Atari Lynx and ZX Spectrum.

Body Harvest was an exclusive game for the N64 that was meant to be a launch title. Numerous delays saw it getting released three years later than planned.

DMA was sold to Gremlin Interactive in 1997. By then the only founders left at the company were Dave Jones, Mike Dailly and Steve Hammond.

Dave Jones was the only member of the original DMA team who was involved with *Grand Theft Auto III*.

Cancelled games that DMA was involved with included a Saturn version of *GTA*, *Clan Wars* and the *Golden Axe*-inspired *Gore*.

Less than half of the original DMA team are now hard at work at Realtime Worlds. They are currently working on *A.P.B.*.





which stood for Direct Memory Access and not Doesn't Mean Anything as Dave would jokingly tell journalists of the time.

"The forming of DMA just seemed to happen," recalls Brian Watson, who was a university pal of Dave's and was originally hired to do Atari ST conversions of *Menace* and *Lemmings*. "It just made sense with the progression that Dave was making. He had a game, he had people to work with (who didn't need the income as a primary source of finance), it was pretty much obvious that this would eventually happen. The level of risk involved in starting up a small development company, at that time, was very low; much different to how it is nowadays."

Mike Dailly recalls DMA's founding with equally fond memories. "I had just been thrown out of college and didn't know what I was going be doing, and then all of a sudden I get handed my dream job!" he remembers. "My mother thought I was crazy and wasting my time since it was a bedroom industry at that time, but I just didn't care, I was a real developer and was even getting paid."

While it lacked the innovative level and weapon design that so many Japanese shoot-'em-ups at the time possessed, *Menace* (which at one stage was called *Draconia*) nevertheless gained decent, if not stellar, reviews from most of the gaming press of the time. And, more importantly, gave Dave the collateral to properly set up DMA.

"One thing that Dave always tried to do was to not borrow money from people as the company grew," recalls Brian. "*Menace* took care of things originally, and then for a good deal of time after we got our new offices we still didn't need to borrow (thanks to *Lemmings*). I'm not sure what happened later on, but the way it progressed at the time seemed like a very safe way to go."

The early days, as they are for any newly set-up business were difficult, and the team found itself torn between porting Psyclapse's *Ballistix* to various home systems and working on their second original game, another shooter, this time called *Blood Money*. Despite the difficulties involved for such a fledgling team of developers, Gary Timmons, who joined shortly after work was finishing on *Blood Money*, loved those early days.

"I just really enjoyed the atmosphere there," he recalls. "There was this fantastic 'try it out and see' attitude to project development – I think it would be hard to start up a company in the games industry today working the way we did back then – so I was glad to get the chance at the time. Doing original products was also refreshing."



Let's Go

While both *Menace* and *Blood Money* were perfectly competent blasters, it wasn't until 1991 and the release of a certain game called *Lemmings* that DMA Design was finally catapulted into the big time. *Menace* had sold a grand total of 20,000 units during its life span for the Amiga, while *Blood Money* had achieved 40,000 units. Both impressive figures, particularly when you consider how rife piracy was on the Amiga during those days. *Lemmings*, on the other hand, managed to sell 55,000 units on its first day of sale. DMA Design had arrived and Psygnosis was eager to cash in on the success of its new gaming phenomenon.

Wildly inventive, and eventually ported to practically every popular system at the time, *Lemmings* proved that DMA had a knack for delivering clever game ideas and, while several sequels and add-ons inevitably ▶

> **"There was this fantastic 'try it out and see' attitude to project development"** GARY TIMMONS ON DMA

BY THE NUMBERS

- **1** The number of disks *Menace* came on.
- **3** The number of years *Body Harvest* was in development for.
- **4** The number of players who could participate in *Hired Guns*.
- **6** The number of *Lemmings* games made by DMA.
- **20** Million units of *Lemmings* games were sold in total.
- **85** The overall percentage *Walker* scored in *Amiga Power*.
- **94** The overall percentage *Blood Money* received in *Zzap!64*.
- **1991** The year the original *Lemmings* was released.
- **2000** The year Dave left DMA.



[CPC 464] *Moonshadow* was Russell Kay's first published game, but it was eventually renamed *Zone Trooper*.



[Amiga] DMA's first game was originally going to be called *Draconia*, but had to have its name changed at the last minute.



[N64] It may have arrived three years late, but *Body Harvest* remains an excellent game.

followed, the Dundee-based studio continued to deliver fascinating content, although not all of it eventually made it to store shelves…

Indeed, during 1990, while Russell Kay was still working on *Lemmings* and Dave had decided that it wasn't currently possible to achieve what he wanted to do on what would later become *Walker*, DMA Design was also working on *Gore* and *Cutiepoo*. The first game was a blood-soaked re-imagination of *Golden Axe* – one of Dave's favourite games at the time – the latter, a cute platformer whose characters had been designed by Gary. Unfortunately, the two titles faced various problems.

"The idea was basically to make *Golden Axe* on steroids," explains Mike when we asked him about the exciting-sounding *Gore*. "It had huge characters/baddies on a three-layer parallax playfield hacking away with loads of blood everywhere. Dave worked on this after playing with an initial version of *Walker* (based on the walkers from *Blood Money*). It was progressing slowly and I even started a version of it after finishing *Ballistix* on the C64, but 1MB Amigas just weren't common back then and memory was simply too tight so it was 'temporarily shelved'. *Cutiepoo*, on the other hand, came about due to several Disney-styled animations of a character that Gary Timmons had created. Dave thought it was too good not to use, but there were several complications for the project, the first of which was that Gary wasn't used to games and had done the animations in a very unfriendly 24 frames per second, and a 24-pixel walk cycle. This caused huge issues within the code, but the real problem was that Tony (the freelance coder that had been hired to write it) just didn't make enough progress. This went on for about a year (at a time when games usually took about six to nine months to write), and so it too was 'temporarily shelved'."

"The moment I saw the test demo I knew that it was going to be good"

BRIAN WATSON ON LEMMINGS



DMA's very first offices. They were over the road from Dave Jones's father-in-law's fish-and-chip restaurant, The Deep Sea. Needless to say, lunchtimes were sorted.

It was also during this time that Dave decided that he wanted to try something a little different, and while he worked on and off on *Gore*, he looked at ways of creating an Action Replay cartridge for the Amiga. While the devices were already available on the C64, nothing had been released on Commodore's 16-bit machine, so Dave set to work on the 'Monster Cartridge', as he liked to call it. Sadly, he was beaten to the punch by another developer and it never came to be.

"The Monster Cartridge made me laugh," recalls Gary. "Poor Dave had these massive ideas and plans and put all this work into it but it never became the wonder product he had originally planned."

Unsurprisingly, due to the massive success of *Lemmings*, Psygnosis pushed DMA into creating several sequels and add-ons, ranging from *Oh No! More Lemmings* towards the end of 1991 (the same year *Lemmings*

WHERE ARE THEY NOW?

Like many British developers, the original team of founders didn't stay at the company forever. Mike Dailly left DMA in 1999, two months short of a decade of service, while Russell Kay left in 1993. Brian Watson departed the company around 1995, then Steve Hammond was next, leaving in 1997. Gary Timmons and Dave Jones both stayed until 2000, when Dave set up a new company that eventually became Realtime Worlds.

Apart from Steve Hammond, everyone from those early days of DMA remain in the game industry. Steve is now working at a company called Gore-Tex who specialise in producing electronic interconnects. Brian Watson has moved overseas to the United States and works on the PlayStation 3 for Sony R&D, while Gary Timmons currently resides at games developer Denki.

Mike Dailly, Russell Kay (who originally left DMA to found Visual Sciences) and Dave Jones, on the other hand, were originally at Realtime Worlds, but recently left when the company went bankrupt in 2010. The company's first game, *Crackdown*, was released in 2007 and turned out to be a refreshingly clever spin on the sandbox genre that *GTA* had popularised. The studio's last title, *A.P.B.* was an ambitious, but flawed online PC game.



Dave Jones



Mike Dailly





SIX OF THE BEST

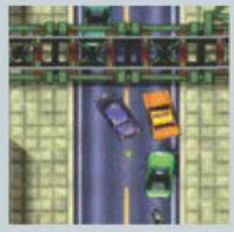
Lemmings

While lemmings don't really hurl themselves off cliffs, they nevertheless made for a great game concept that still holds up today. Having to save the little critters from all sorts of doom made for a thoroughly entertaining gaming experience. Add in some devious puzzles and cute animation and its little surprise that the series became so successful.



Grand Theft Auto

Astonishing in both design and concept, it's a testament to Dave Jones and the rest of the DMA team that *Grand Theft Auto* still looks so good today. The slick overhead action, the feeling of freedom and the wanton violence all helped turn *GTA* into a worldwide gaming phenomenon. It's a humbling experience to return to where it all began.



Unirally

What do you get when you cross a unicycle with a multicoloured racetrack? The greatest multiplayer racing game the SNES had seen since *Super Mario Kart*. It may not look like much, but *Unirally*'s ridiculously hectic pace and competitive play more than makes up for its simplistic-looking aesthetics. Find seven friends, grab some beers and play till the sun comes up.



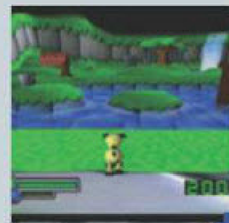
Body Harvest

It may have suffered lengthy delays and a bad case of fogitis, but *Body Harvest* was well worth the wait. Huge in size – spanning five time periods – and featuring more than 60 different vehicles, it's an absolutely mammoth game that, while rather ugly by today's standards, still has tremendous gameplay and atmosphere. A definite classic that needs to be played.



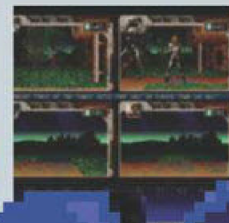
Space Station Silicon Valley

If you need further proof of the ideas coming out of DMA then check out *Space Station Silicon Valley*. It's a great adventure game that sees you solving puzzles by jumping in and out of robotic animals. It is a clever juxtaposition of hilarious visuals and devious gameplay and is one of the Nintendo 64's most original games.



Hired Guns

Trust DMA to put a spin on what was becoming a conventional staple of the Western RPG. While *Hired Guns* wasn't the first role-playing game to allow you to send a group of four adventurers on a quest, it was the first to let four players adventure simultaneously on one machine. Yes, it was resource hungry, but the resulting experience more than made up for it.



had been released) to *All New World Of Lemmings* in 1995. While the numerous add-ons, including some quaint festive editions that saw the little critters dressed up as Santa Claus were little more than level packs, it was *Lemmings 2: The Tribes* that allowed the little buggers to really show off their talents. Now split into 12 different groups, the action took place over larger levels and featured multiple drop points for the Lemmings, who also had a variety of new abilities, ranging from jumping to hang-gliding to even turning into a Super Lemming. *The Tribes* was critically received by reviewers and was ported over to many machines, although nowhere near as many as the 1991 original.

By 1995, however, it was starting to become clear that interest in *Lemmings*, both from DMA and the general public, was starting to wane, with *All New World Of Lemmings* failing to attain the same success as its predecessors. Psygnosis still felt there was plenty of interest in the franchise, hiring other developers to work on new games and spin-offs – such as *3D Lemmings*, *Lemmings Paintball* and *The Adventures Of Lomax* – often to mixed results. Even now the furry critters are starring in their own game on the PlayStation 3 (by Team 17) and while the original team no longer have any involvement with the franchise, they still hold a candle for the 1991 original.

"It was a simple, straightforward idea that was very frustrating to play but had instant gratification once you'd finally completed a level," explains Brian. "It also boasted great replay value and hours and hours of gameplay. And if you got pissed off with it, you got to blow the little f**kers up. Very satisfying. The moment I first set eyes on the initial test demo I knew that it was going to be good."

Russell has similar memories of the green-haired critters. "I remember taking a holiday in America just after *Lemmings* had been released and it was great walking into all the shops over there and seeing our game on the shelves, this little thing that we had made was everywhere… in short it felt fantastic."

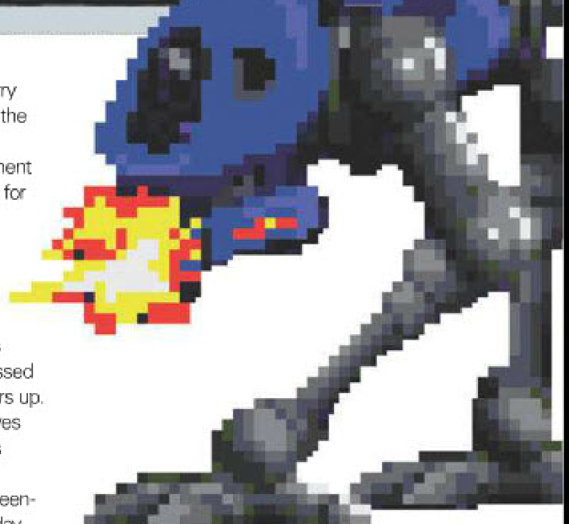
Although the first half of the Nineties saw DMA releasing a fair amount of *Lemmings* games, it still found time to create original ideas, with *Walker* – which had been around in one form or another since 1989 – appearing in 1993, despite being the original inspiration for *Lemmings*, along with the excellent *Hired Guns* and *Unirally* (or *Uniracers* as it was known Stateside), which appeared a year later.

While all three titles were superb games in their own right – *Walker* being an excellent blaster that saw you controlling a huge mech and taking on hordes of tiny soldiers and *Hired Guns* being an excellent spin on *Dungeon Master* that allowed up to four players to participate at the same time – it was *Unirally* that would give the Scottish developer its next big break.

KANNED KIRBY

Although he started off life as a platform hero, Kirby soon proved himself to be a rather versatile blob, appearing in a variety of different genres on the SNES. Sadly, one of the most interesting concepts he was involved in never actually saw the light of day, as Mike explains.

"We made this game using the SNES mouse where you had a jelly blob being stretched and pinged (like an elastic band) around the screen. This game was heavily reminiscent of an old spectrum game called *Bugaboo The Flea*, but improved the jumping and direction by use of the mouse. Nintendo took a liking to this and even allowed us to use the *Kirby* brand. The game was being written by the same coder who took on *Cutiepoo*, having persuaded Dave to give him another chance. The game did progress slowly for a while and many (*many*!) levels were done, but Tony failed to fix some fairly fundamental problems in the game code and, as a result, it never progressed as well as it should have. Nintendo tired of it and as the mouse wasn't selling very well anyway, the game was canned."







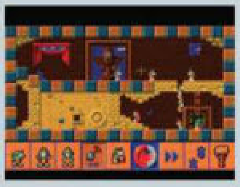
[ZX Spectrum] *Bugaboo The Flea* was DMA's inspiration for its canned Kirby game.

The Nintendo Factor

Published by Nintendo (DMA's first new publisher since Psygnosis), the success of *Unirally* led the Japanese company to ask DMA to work on its upcoming console, the Ultra 64 (or N64 as it was eventually known). The deal was that DMA would create an exclusive title for the machine, which turned out to be the wonderful (if often underrated) *Body Harvest*. Sadly, despite being amazingly inventive (it was effectively a more vehicle-based take on DMA's *Grand Theft Auto*), numerous issues with Nintendo meant that the game faced various delays, eventually arriving three years after its original due date (it was supposed to be a launch game for Nintendo's machine). A final blow saw Nintendo dropping the game altogether, leaving Midway to pick up the pieces.

"I wasn't involved directly with *Body Harvest*, but the constant game changes could be

THREE TO AVOID



All New World Of Lemmings

Although the third official update of *Lemmings* isn't a shockingly bad game, it's definitely proof that ideas for the series were beginning to run rather thin. Level design felt lacking compared to past efforts, while the watered-down tribes were a real disappointment compared to the clever groups that were available in *Lemmings 2*. What a shame.



Tanktics

Although there's some wonderful ideas crammed into *Tanktics*, it just doesn't really work. Part-strategy, part-puzzle, part-micromanagement; it's a strange mishmash of genres that you want to love, mainly because it's just so darned charming. Sadly, all the charm in the world can't save this misfire from 1999, which is a pity, as we love the concept.



Wild Metal Country

It's difficult to believe that this game was made by DMA Design as it just feels so… well… ordinary. There are certainly some nice ideas on offer, but they're so well hidden under the average gameplay that it requires the patience of an absolute saint to discover them. Oh, and if you must play it, stay well away from the Dreamcast version.



[Amiga] *Lemmings* was a massive success for DMA and catapulted the company into the limelight.

felt throughout the company," is Mike's diplomatic reply about the situation. "It was also pretty draining for the folk on it, as there was just never an end is sight. Nintendo just couldn't seem to make their mind up about what it wanted to do, or so it seemed from the trenches…"

Mike wasn't the only one who was frustrated by *Body Harvest*'s slow progress. "From the outside, there seemed to be a big huge deal made about this by Nintendo," continues Brian. "It was going to be a launch title to start with, then it slipped, then it slipped again. It was definitely one of those titles that was hyped a lot so the expectations were high and by the time it came out, no one seemed to be bothered any more. We (Iguana) even got *Turok* out before *Body Harvest* finally hit the shelves and we started that a year after I had left DMA."

Interestingly, despite the slow progress of working on Nintendo's new machine, it nevertheless proved to be a great piece of kit to work on, with Brian in particular having plenty of praise for it. "If you include all of the hardware [we used at DMA] during that period, my favourite still boils down to the N64. It's an elegant piece of hardware, decently fast and very well put together. The PSone was a clusterf**k in comparison."

> **"We all know each other pretty well and understand each other's strengths"**
>
> RUSSELL KAY ON REUNITING AT REALTIME WORLDS



THE GTA EFFECT

While DMA was still toiling away on *Body Harvest*, its latest game, *Grand Theft Auto*, arrived in 1997 and immediately began to earn praise from journalists and notoriety from non-gamers – a trait that's continued to hold true for the series all the way up to last year's release of *Grand Theft Auto IV*. Originally released on the PC and later ported to Sony's PlayStation, it proved to be a huge success thanks to the adult nature of the gameplay – assassinations, beating up Hare Krishnas and carjacking were all par for the course – and howls of protest were heard from newspapers like the *Daily Mail* who were incensed with *GTA*'s content, despite the fact that it carried an 18 certificate.

The biggest pull of *Grand Theft Auto*, however, was the sheer amount of freedom that it offered you, something it shared with *Body Harvest*, which was finally released a year later in 1998. While there was a mission structure in place that had you performing numerous nefarious tasks for the city bad guys, the real beauty of the game (and something still prevalent with later releases) is the freedom to pretty much do whatever you wanted.

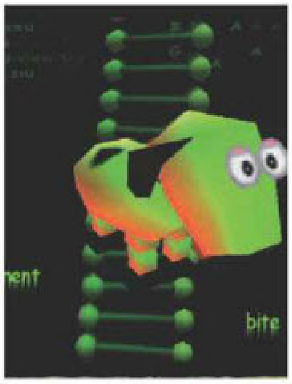
Not since the original *Lemmings* had there been so much commercial and critical interest in a DMA game (we don't know anyone who didn't own a copy of the PlayStation version), and DMA went on to release an official sequel in 1999 (the two London add-on packs were by third parties), which offered new additions to the gameplay that ranged from carrying out missions for the city's gangs, increased law enforcement, the ability to carry

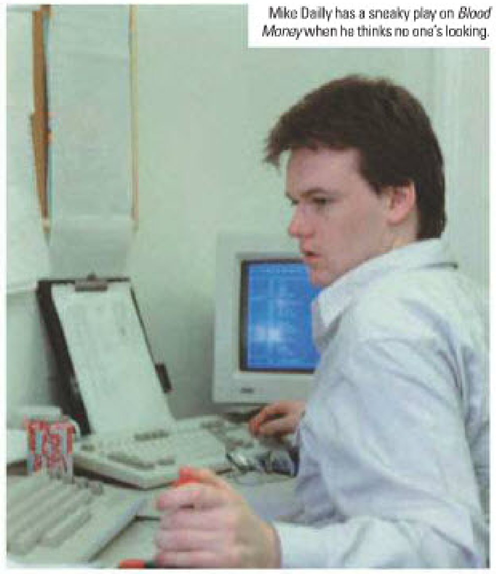
TIMELINE

- **1983** DAVE JONES, RUSSELL KAY AND STEVE HAMMOND REGULARLY MEET UP AT DUNDEE'S KINGSWAY AMATEUR COMPUTER CLUB.
- **1988** DAVE AND THE REST OF THE TEAM BEGIN DISCUSSING NAMES FOR THEIR NEW COMPANY. THEY EVENTUALLY SETTLE ON DMA. THEY ALSO STRIKE A PUBLISHING DEAL WITH LIVERPOOL-BASED PSYGNOSIS.
- **1989** MIKE DAILLY GETS DISMISSED FROM COLLEGE AND STARTS WORK AT DMA FULL-TIME. DMA MOVES INTO ITS NEW OFFICE.
- **1990** DAVE BEGINS WORK ON A NEW AMIGA CHEAT CARTRIDGE FOR DATEL, BUT IT ISN'T FINISHED IN TIME. IT'S EVENTUALLY SHELVED ALONG WITH THE GAMES GORE AND CUTIEPOO.
- **1991** LEMMINGS IS RELEASED TO CRITICAL ACCLAIM AND SELLS AN ASTONISHINGLY HIGH 55,000 UNITS ON ITS FIRST DAY OF RELEASE.
- **1993** WALKER FINALLY MAKES ITS DEBUT ON THE AMIGA. DAVE FIRST STARTED WORK ON IT IN 1989.
- **1994** DMA PARTS COMPANY WITH PREVIOUS PUBLISHER PSYGNOSIS. UNIRALLY IS INSTEAD PUBLISHED BY NINTENDO.
- **1997** GRAND THEFT AUTO IS RELEASED AND INSTANTLY BECOMES A HIT THANKS TO ITS OPEN-ENDED GAMEPLAY AND THE NOTORIETY IT GENERATES VIA THE PRESS. DMA IS ALSO BOUGHT BY UK PUBLISHER GREMLIN INTERACTIVE IN THE SAME YEAR.
- **1999** GREMLIN INTERACTIVE IS ACQUIRED BY INFOGRAMES. DMA IS EVENTUALLY SOLD TO ROCKSTAR GAMES AND BECOMES ROCKSTAR NORTH.
- **2000** DAVE JONES LEAVES DMA.
- **2002** DAVE JONES OFFICIALLY FOUNDS REALTIME WORLDS, WHICH CURRENTLY HAS OVER 2,000 EMPLOYEES.
- **2007** CRACKDOWN IS RELEASED BY REALTIME WORLDS AND GOES ON TO SELL OVER 1.5 MILLION UNITS IN ITS FIRST SIX MONTHS OF RELEASE.



[PS2] Only Dave Jones had any input in *Grand Theft Auto III*, but he left before it was finished.





Mike Dailly has a sneaky play on *Blood Money* when he thinks no one's looking.



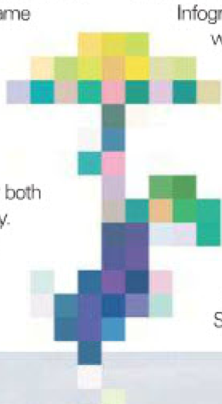


[Amiga] *Gore* was one of many games that were started by DMA, but never actually completed.

out side missions – such as working as a taxi driver – and being able to ride trains (on the PC and Dreamcast versions only).

As well as marking the arrival of the *GTA* franchise, 1997 also saw DMA being sold to Gremlin Interactive (previously known as Gremlin Graphics) and Dave taking up the mantle of creative director. Although Gremlin had been impressed with the technology that DMA had created, the eventual union wasn't without its problems.

"Gremlin had been impressed with DMA because we'd been using the same graphics engine [3DMA] over several projects, including *Clan Wars* and *Attack* [both later cancelled], *Wild Metal Country* and the *GTA 2* editor," reveals Mike. "They wanted a collaboration, which would allow both sites to use the same technology. Both sites' R&D teams worked very closely for a time, with several tips constantly going back and forth. Unfortunately, the head of Gremlin's R&D had some very different views on how things should progress and we simply didn't agree. We basically thought he was mad, and the collaboration soon broke down. Gremlin did progress with their 3D engine (it was called Mr Dog for a time at least, after the Gremlin team watched an Eddie Izzard concert one lunchtime up at DMA), and it was eventually used in *Hogs Of War*."



Things were not going well, though, as Gremlin Interactive was later purchased by Infogrames (now Atari) in 1999, which was complicated further by the fact that BMG Interactive (who went on to eventually become Rockstar), who had published *GTA 1* and *2* still had a deal in place with DMA, which saw Infogrames selling the Scottish developer to Take-Two (parent company of Rockstar).

The many changes, and the fact that the likes of Russell, Mike, Steve and Brian had already left the company took a visible toll on DMA's later products, with the likes of *Tanktics* and *Wild Metal Country* lacking the polish of earlier games (even if they did have plenty of decent ideas buried deep beneath the surface). DMA became known as Rockstar North, with Dave leaving while *GTA III* was being completed. Needless to say, several games were lost during the period of upheaval, ranging from N64 ports of *Grand Theft Auto* and *Wild Metal Country*, a port of *Unreal* that was due to appear on the N64DD and the intriguing *Attack!*, a game Mike was particularly sad about losing.

"It was a simple concept of a single character who acted as chieftain and controlled many clansmen in a caveman environment," recalls Mike. "The idea of small characters versus dinosaurs gave rise to many funny concepts and should have been an easy game to make work. In fact, it could have been a great little game (and one I'm tempted to do myself one day), but as was sometimes the case with simple games, people tried to do new features without making sure the core game was there and they simply made a complete mess of it."

The demise of DMA Design does have a happy ending, however. When Dave left Rockstar North he set up a new studio in Dundee that became a subsidiary of Rage Software, then later Realtime Worlds in 2002. Many of the original creative minds of DMA Design can now be found there*, including Mike and Russell. Something Russell is more than happy about. "It feels good," he reveals. "We all know each other pretty well and understand each other's strengths and weaknesses. It also makes working together a complementary experience; you know when someone else can pick up the slack."

MISSING GEMS?

It's rare for a studio to be so forward about its missing games, but Mike has so many entertaining stories we just had to put them in print. "We got contacted by an artist looking for work (one J Lewis) and so Dave let me start a new shoot-'em-up with him," remembers Mike about an unnamed shooter he worked on. "*Battle Squadron* had just been released and we felt we could better it. Although I started on it, I was taken off it when Dave got the contract for the PC-Engine version of *Shadow Of The Beast*. Another coder, Dave Whiteman, had got in touch and was given my source, but progress was painful. The last straw came when after a week of hard work he came in to show his progress and all he'd done was some fading text on the screen."

Another promising-sounding title was *Clan Wars*. "This was basically a Scottish castle in the *Populous* mould, but in full 3D," continues Mike. Sadly the game never really got anywhere due to an initial lack of staff, a lead programmer who spent a year doing pretty much nothing, and the poor morale of the rest of the team. Once the lead programmer was replaced rapid progress was made, but by then it was too late, DMA had been taken over by Gremlin, and wasn't interested in funding it any longer.



The DMA team as they appeared back in 1991. According to Mike, pulling silly poses was mandatory.



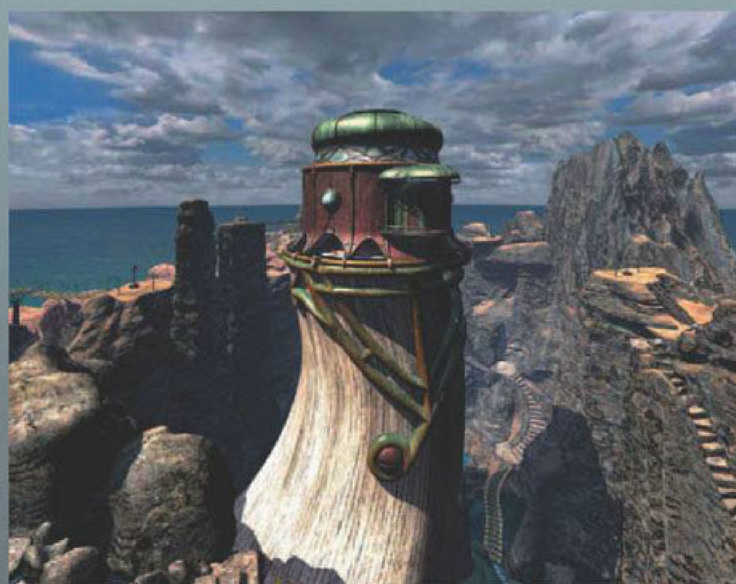
Special thanks to Mike Dailly for all his help and supplying rare screen shots. (* Realtime Worlds closed down in 2010)

THE MAKING OF...

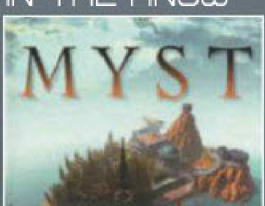
MYST

It was the game that single-handedly proved to the PC-owning world that shiny CDs could be used for something more exciting than just storing the Encyclopædia Britannica. Join Damien McFerran as he delves into the history of one of biggest selling videogames of all time





IN THE KNOW



» **PUBLISHERS:** BRØDERBUND, SUNSOFT, MIDWAY

» **DEVELOPER:** CYAN WORLDS

» **RELEASED:** 1993

» **PLATFORMS:** MAC OS, WINDOWS, SATURN, PLAYSTATION, JAGUAR CD, AMIGA, CD-I, 3DO, PSP, NINTENDO DS

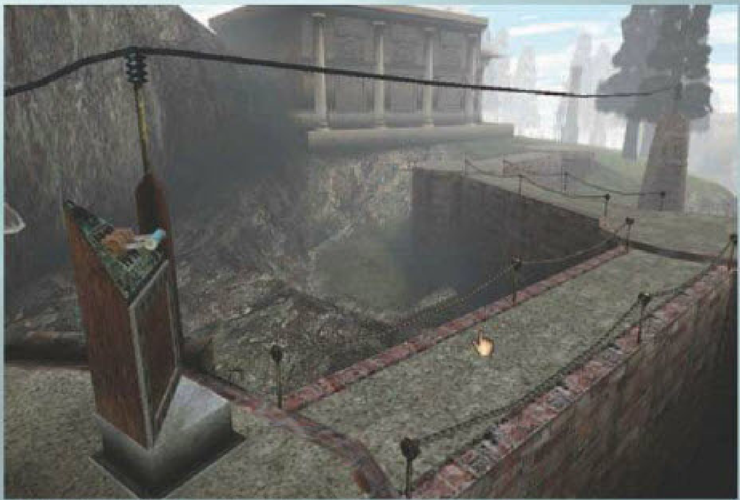
» **GENRE:** PUZZLE ADVENTURE

» **EXPECT TO PAY:** £5+

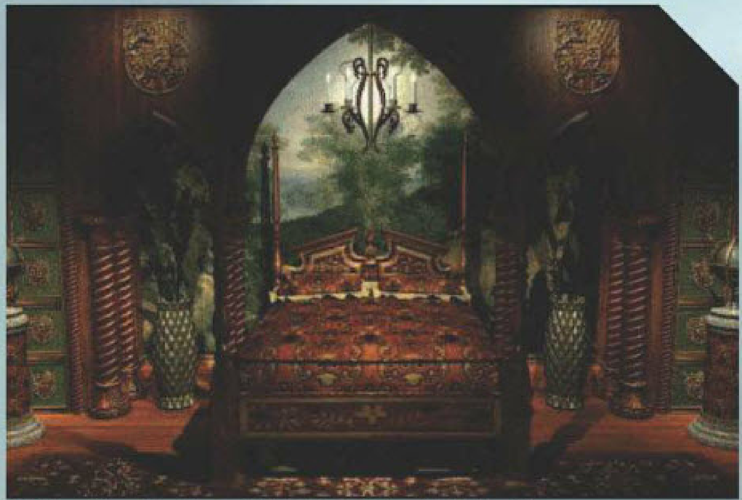
Few videogames have the ability to polarise opinion quite as sharply as *Myst*. When it hit shop shelves back in 1993 many critics scoffed at the sedate gameplay and predicted that few people would want to sit through a game that was little more than an 'interactive picture postcard'. However, the general public clearly didn't share the same viewpoint. *Myst* captured the imagination of millions of gamers and until the publication of *The Sims* in 2002 it was the bestselling PC title of all time – clearly, as a slice of entertainment it did something right, regardless of the harsh critical reception it received from some sectors of the specialist press.

The brainchild of brothers Rand and Robyn Miller, *Myst* is undoubtedly the most famous project to emerge from the siblings' Cyan studio (now known as Cyan Worlds) and famously encouraged hordes of non-gamers to shut down their boring old spreadsheets and use their PCs for something more pleasurable. However, in the beginning the pair didn't intend to produce games for adults. "Rand had an idea for a children's book on a computer," explains Robyn Miller when asked how the duo got into creating videogames. "A child would turn the page, click on items on each page, and those items would react in certain ways." The intuitive interface that would grace *Myst* can trace its origin to this moment. Intrigued by the notion of interactive storytelling, Robyn added his own spin on the concept and proceeded to augment his brother's idea. "Rand sent me a copy of HyperCard, which was like a predecessor to the web," he recalls. "The first drawing I did was of a manhole against a solid white background. But what became immediately obvious was that an entire world existed below that manhole, and I wanted to visit it. So I began to draw it and piece it together. The idea of the book altogether went out the window, or at least it quickly evolved into this idea of a more nonlinear world. It was very exciting; I began moving my way through that world, making it all up as I went along."

This nugget of an idea became Cyan's first game, fittingly entitled *The Manhole*.



» [PC] A shot from 2000's *realMyst*, which replicated the entire game using true 3D visuals.



» [PC] Some of the game's locations are still dazzling in their detail, even by today's standards.

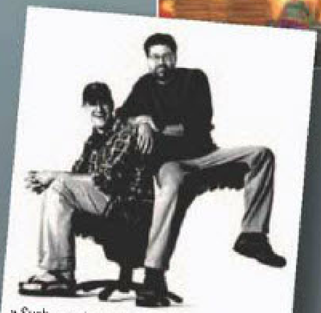
"WE HAD PROPOSED A MYST-LIKE GAME TO ACTIVISION EARLY ON, BUT THEY REJECTED IT AND TOLD US TO STICK TO CHILDREN'S GAMES. . . IT WAS SUNSOFT WHO APPROACHED US ASKING US IF WE'D DO A GAME FOR AN OLDER AUDIENCE" ROBYN ON THE CREATION OF MYST

It offered the pair of game-design rookies an opportunity to find their footing in an exciting new industry. "I had very little idea what I was doing in terms of programming," admits Robyn. "But Rand and I made a perfect team. I'd mail floppy disk after floppy disk to Rand, who was living on the opposite side of the country. He made the thing run smoother, faster, and smaller, and then he'd finish it off with sounds and voices." When the pair were satisfied they had a product worth selling, they distributed *The Manhole* via a mail-order system, while actively courting other publishers in order to secure a more financially lucrative deal. "We printed up a few hundred copies and brought them to an industry show," says Robyn. "People seemed to really enjoy walking around a little world, which, at that time, was unique. We met a lot of companies interested in the product, but we ended up going with Activision."

The Manhole was released on CD-ROM in 1989 and enjoys the distinction of being the first computer (but not console) game to be distributed on the format. However, the CD-ROM medium was just used as a convenient way to store the multiple floppy disks that housed *The Manhole*'s code, and it wasn't until Cyan released the sci-fi adventure *Cosmic Osmo And The Worlds Beyond The Mackerel* that the brothers truly exploited the vast potential of the technology. "We didn't have fun with CD-ROM until *Cosmic Osmo*," says Robyn. "That's when we took advantage of all that space; not just with the music, but with the size of the world."

With two successful children's games under their belts the Miller brothers started to consider broadening their horizons a little – a move which surprisingly wasn't met with encouragement from all quarters. "We had proposed a *Myst*-like game to Activision early on, but they rejected it and told us to stick to children's games," says Robyn. "It was our Japanese publisher, Sunsoft, who approached us out of the blue asking us if we'd do a game for an older audience. We shared a tremendous amount of mutual respect toward one another and we were given total creative freedom on the project. That's virtually unheard of. It came at the perfect time; the technology was right and our ideas had matured, and that's when we started *Myst*." Ironically, as part of the deal Sunsoft only wanted the home console distribution rights – an indication of how insignificant the PC gaming market was at the time. It was a decision that would come to haunt the Japanese company.

With vital financial support in place, work on the new title began in earnest. "In the beginning it was just me and Rand," explains Robyn. "We did a lot of intense planning and mapped the whole thing out. It was a blast to be working on something that required a strict logic but also a history and an aesthetic sensibility. This felt more like a real world, whereas our



» Such was the success of *Myst* that the Miller brothers even took up modelling Gap khakis.

DEVELOPER HIGHLIGHTS

THE MANHOLE (PICTURED)
SYSTEM: MAC
YEAR: 1988

SPELUNX
SYSTEM: MAC
YEAR: 1992

COSMIC OSMO'S: HEX ISLE
SYSTEMS: MAC, PC
YEAR: 2007



WHAT'S MY LINE?



Due to a lack of funds, Rand and Robyn Miller decided to step in front of the camera when it came to casting the key roles of evil brothers Sirrus and Achenar. "We took nothing serious when we started playing around with a cheap video camera; we were laughing most of the time. We did hardly any planning for the parts at all – we didn't even know our lines – even the lighting was horrible. I remember gathering all our footage together for editing and thinking… 'crap, what the hell am I going to do with this?' I had very little useable footage so I created this method of having the brothers mysteriously appear from behind the white noise. In the end, I think it worked well." Rand also assumed the role of the brothers' father Atrus. But what was his muse? "Rand just closed his eyes and pretended he was Al Pacino," laughs Robyn. "Wasn't it obvious?"

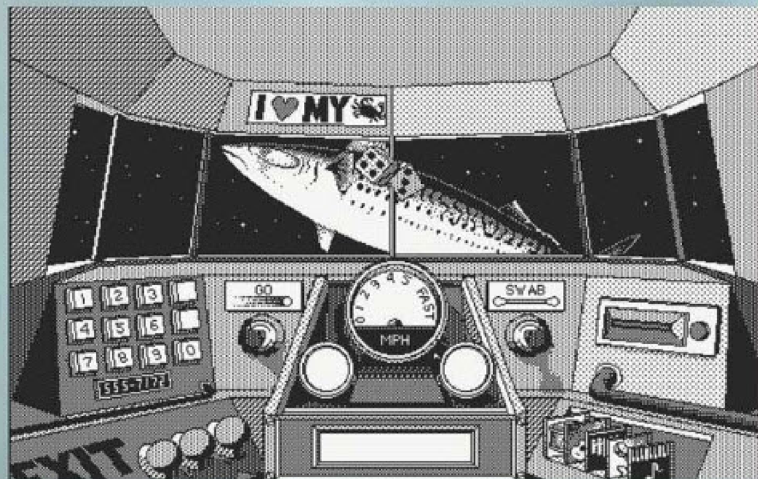
» [PC] Each frame was rendered using StrataVision 3D and then edited using Photoshop 1.0.



THE MAKING OF… MYST

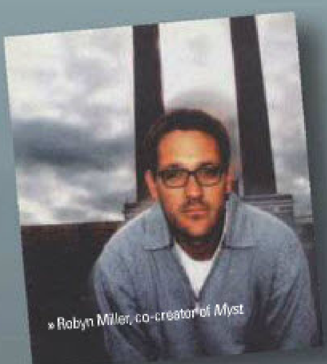


» Cyan Worlds' rather unorthodox HQ in Mead, Washington wouldn't look out of place in one of the company's titles.



» [Mac] The bizarre *Cosmic Osmo And The Worlds Beyond The Mackerel* was Cyan's second game and made the most of the Apple Mac's monochrome display to create some truly memorable environments.

"THERE WAS NO SINGLE THING WE WERE INSPIRED BY. . . LOOKING BACK, I'M SURE THAT SOME OF THE INSPIRATIONS CAME FROM MY OWN SCHOOL YEARS AND CHILDHOOD" ROBYN ON WHAT INSPIRED HIM



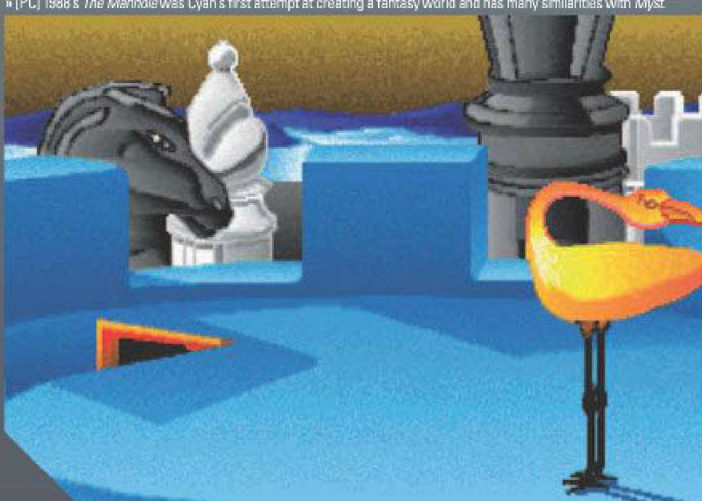
» Robyn Miller, co-creator of Myst

previous products had felt like expanded playthings. It was far from perfect, but we did our best in those planning stages and had a lot of fun." As productive as this working environment might have been, the pair knew that they would have to enlist the assistance of others to tackle such an ambitious assignment. "After we designed the ideas behind the game the production began, which took about two years," continues Robyn. "About five people were involved in the process. Besides Rand, I worked most closely with Chuck Carter, an extremely talented artist, Chris Brandkamp who did sound design and Richard Watson who helped Rand with HyperCard scripting." The use of HyperCard would ultimately dictate the production of the game. Although *Myst* would go on to enjoy incredible success on the PC, it was actually coded on the Apple Macintosh. "HyperCard only existed on Macs," explains Robyn. "Without HyperCard, I'm certain we would have never made *Myst*."

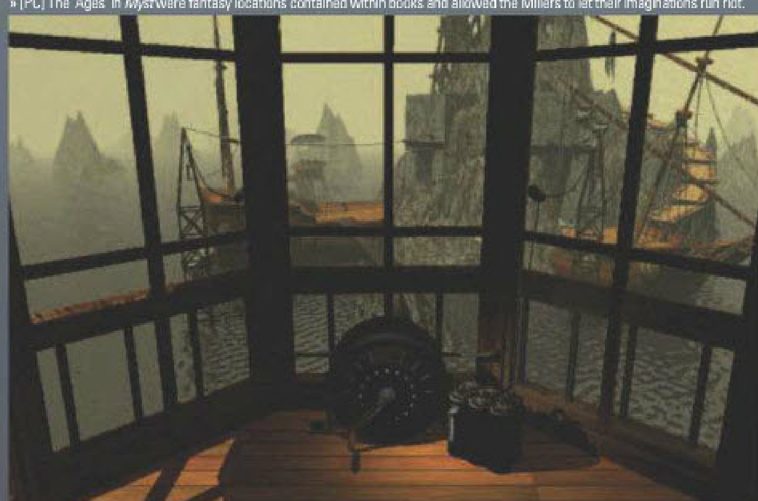
It's common for game developers to cite other classic videogame titles as inspirations for their work, but for the Miller brothers their influences were more deep-rooted. "There was no single thing we were inspired by," reveals Robyn. "Looking back, I'm sure that some of the inspirations came from my own school years and childhood. For example, during high school, I used to paint these large-scale canvases; I'd spend hours every day on them. They were surreal things, like glimpses into some bizarre universe. I'm sure my childhood fascination with these surrealistic visions influenced the visuals throughout the *Myst* world. There were more direct influences, like some of the 19th Century novels I was reading at the time." Indeed, Jules Verne's 1874 book *The Mysterious Island* is cited as a major inspiration for both the game's setting, and its title.

One of the most distinctive features of *Myst* is the 'Ages' that constitute the various self-contained levels of the game. "We came up with overarching themes," Robyn says when asked about how the team dreamt up these fantastical environments. "An example is the Selenitic Age, where all the puzzles are based on sound or music. I can't say some external thing inspired us; we just racked our brains until we came up with the idea. That's how we worked our way through each of the Ages. There were specific inspirations, but we mostly searched for themes. When designing the puzzles and working our way through a particular age, Rand and I always reminded one

» [PC] 1988's *The Manhole* was Cyan's first attempt at creating a fantasy world and has many similarities with *Myst*.



» [PC] The 'Ages' in *Myst* were fantasy locations contained within books and allowed the Millers to let their imaginations run riot.





» [PC] *Myst V: End Of Ages* saw release in 2005 and discarded the rendered backgrounds and FMV actors for a fully 3D world.

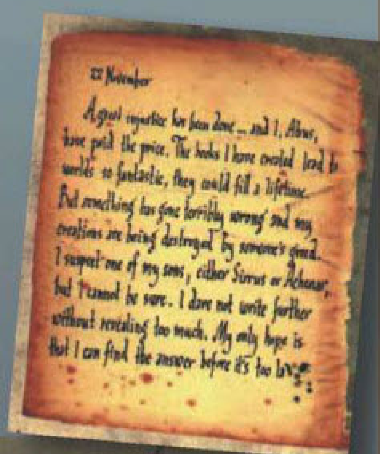


» [PC] This scene should be familiar with fans – it's from this wharf that you begin your investigation of the mysterious island.

another of a credo: 'There's always a better idea.' We had to remain flexible and open enough to throw away any idea we'd come up with, knowing that we'd always be able to come up with something better – something more 'right' for the task at hand."

One aspect of the game that is unfairly ignored by critics is the groundbreaking 'transparent' user interface. "We actually worked hard to create a UI that was invisible, something that didn't feel like a computer at all," says Robyn. "At the time Rand and I were reading a number of books dealing with the subject of user interface as it related to the common objects that we often take for granted, like doors, switches, teapots, forks, knives, and everything else that's designed. We were inspired by this notion of UI in the world around us, but mostly by the idea that anyone could conceivably sit down and play a virtual world, with no instructions, no introduction." Indeed, it was this facet of the game that arguably allowed *Myst* to captivate so many 'non-gamers', as Robyn explains: "We imagined a computer illiterate user – and we often thought of our grandmother – or we imagined the type of user that doesn't have the time to learn how to play a game. These were the users that would have to be immediately drawn into a game. We wanted to create an interface that would appeal to this type of user."

With the visual elements of the game quickly falling into place, the team began work on the aural side of things. Chris Brandkamp handled the distinctive sound effects superbly, but it was Robyn who composed the wonderful music used in the game. Surprisingly, he's highly critical of it. "To this day, I'm still not convinced that *Myst* required music," he says. "Our philosophy was that we were creating a world. We wanted that world to be as real and believable as possible. When we're living our daily lives we don't hear a soundtrack of music. Instead we hear environmental sounds and sometimes these sounds have a real power to provoke mood. Think of water against a shore, birds in the trees or maybe a churn of motors inside a factory; it can be considered music of a sort. I actually think sound effects can be even more powerful in a game because it's a simulation of a nonlinear environment. You're supposed to believe in this place. I never really had the luxury of experimenting with sounds in that way, so we had to rely on music to create our mood. I still wonder if what we did was second best. Ideally speaking, the music should harmoniously coexist with the visuals, the player's actions, the sound effects, the gameplay and the story. These elements should be an inextricable whole, continually bolstering one another, never interrupting one another. That's the job of a director. As a director, I was unhappy with the way the *Myst* music stood out and felt divorced from the player's nonlinear experience. I also have a confession: I'm not a real

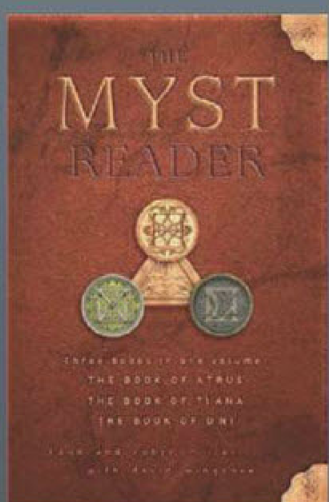


22 November

A great injustice has been done... and I, Atrus, have paid the price. The books I have created lead to worlds so fantastic, they could fill a lifetime. But something has gone terribly wrong and my creations are being destroyed by someone's greed. I suspect one of my sons, either Sirrus or Achenar, but I cannot be sure. I dare not write further without revealing too much. My only hope is that I can find the answer before it's too late.

» Since its release in 1993 *Myst* has been converted to numerous formats.



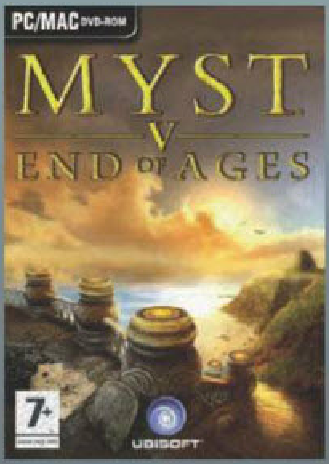


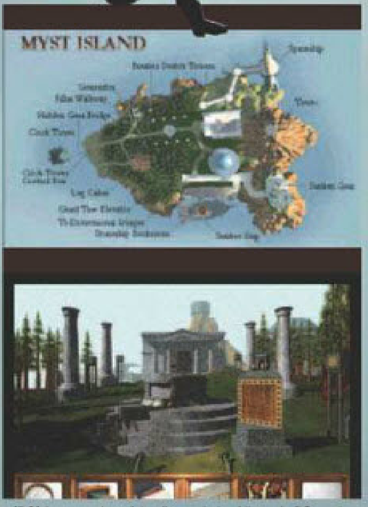


THE MAKING OF… MYST

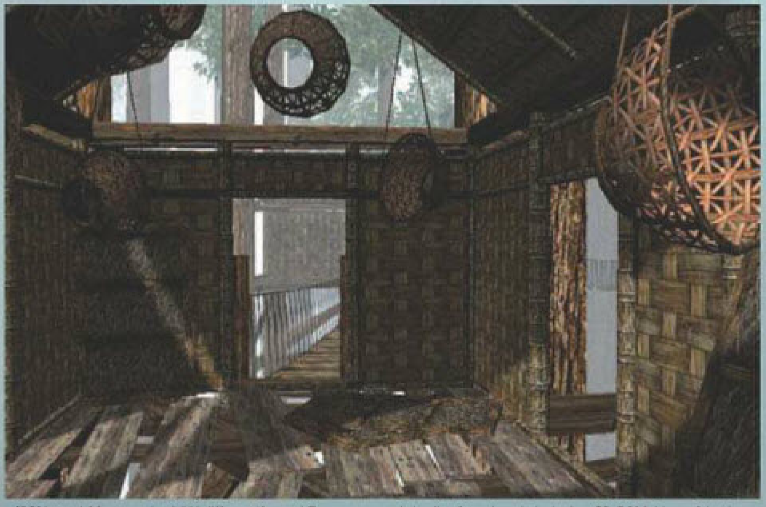
LICENCE TO PRINT MONEY

The success of *Myst* has resulted in a whole flood of sequels and spin-offs. In addition to 1997's *Riven*, we've seen *Myst III: Exile* (2001), *Myst IV: Revelation* (2004) and *Myst V: End Of Ages* (2005), as well as *Uru*, an online interpretation of the franchise. The original game has been the subject of remakes and reissues as well, with 2000's *realMyst* presenting the entire game world in full 3D. Robyn isn't a fan. "I only saw *realMyst* after it was released. As a remake, it was a lapse of reason and directionless; overt merchandising of the original *Myst*. It definitely wasn't how we originally envisioned *Myst*, as was promoted." A series of books was also commissioned in an attempt to expand the *Myst* universe. "I was involved with agreeing to the three-book deal; it was my biggest mistake while still at Cyan," says Robyn, sadly. "I'm glad many have enjoyed the books, however, I personally was left unsatisfied."





» [DS] A screenshot of the disappointing Nintendo DS version, released by Midway in 2007.



» [PC] In total *Myst* contains 2,500 different 'frames'. To ensure speedy loading from the relatively slow CD-ROM drives of the time, each frame was reduced to around 80KB in size.

composer and I sort of faked my way through the entire thing." Fans of the game clearly didn't share Robyn's view and due to public demand an official soundtrack was released on CD in 1998. However, despite the praise-worthy nature of the music, Robyn was adamant that he wasn't going to make the same mistake twice. "With the sequel I made an effort to push the music back into the environment," he says. "In some cases, the soundtrack became something more like tonal sound effects. As a composer, I enjoyed writing the more obvious linear pieces, but I felt *Riven* required those less obvious pieces."

It simply wouldn't be sporting to chat with one half of *Myst*'s creative team without touching upon the subject of the fiendish puzzles that have kept players glued to their monitors all these years. How did the duo approach the design of these brain-teasers? "Carefully – and always thinking of the user," replies Robyn. "How would we approach this puzzle if we were playing the game? How would a new user approach the puzzle? Was it is too difficult, or too easy? We felt our best puzzles in *Myst* were those that weren't arbitrarily tacked on to the story and the environment, like the maze car. Our best puzzles were those that felt cohesively bonded to their surroundings, and didn't really feel like puzzles at all."

The captivating storyline was also a key factor in *Myst*'s appeal. Placing the player in the shoes of a voiceless character known only as 'The Stranger', the game showcases a plot that focuses on two nefarious brothers (played by Rand and Robyn) attempting to undo their father's work. Despite the rather ominous overtones, *Myst* is notable for its complete lack of violence. Over time many people have assumed this to be due to the Miller brothers' strict religious upbringing as sons of a church minister, but Robyn maintains it wasn't as overtly intentional as that. "It's not because Rand and I were on a campaign to stop violence in games," he confirms. "We were just out to make interesting, intriguing games. I think Rand would agree with me that violent imagery in art, film, games, or any other kind of story can be shocking in a way that can be considered good. Jarring, violent imagery is sometimes the only thing that kicks us in the ass and wakes us up to something we'd never otherwise consider. That's what art in general is supposed to do – show us a new way of looking at the world around us. But what doesn't make sense to me is when we turn that shocking sort of violence into fun, like shoot-'em-up titles. They cause us to participate and sometimes even laugh at acts of violence. I can't agree with that. It seems as if we are ripping away some small piece of ourselves. It doesn't make sense to me."

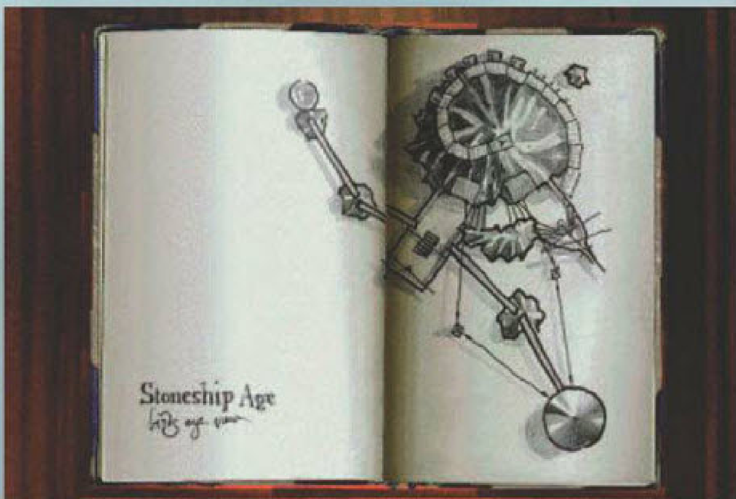
Released only a few months after fellow CD-ROM starlet *The 7th Guest*, it's been argued that *Myst* helped rapidly accelerate the PC-owning public's uptake of CD-ROM drives and could even be described as the

» [PC] Because each frame in the game was optimised for fast loading, *Myst* ran on pretty much any PC in 1993…



» [PC] … this undoubtedly contributed to the success of the title in the user-unfriendly days of Windows 3.1.





» [PC] Each 'Age' in Myst is contained within a rather attractive looking book. It's possible that this is an endearing nod to the interactive children's books that the Miller brothers first wanted to create.



» [PC] Although modern consoles could probably render this scene in real-time, back in the early-Nineties just seeing it pre-rendered made for a breathtaking experience.

'killer app' that sold the medium to the gaming world. "Not a lot of people had the hardware for CD-ROMs back then," recalls Robyn. "I don't remember being concerned about this when we shipped *Myst*, maybe because we never expected it to sell like it did. But suddenly, almost overnight, people began buying CD-ROM drives like crazy. It was one of those sudden sea changes, and we were caught right up on the cusp of it."

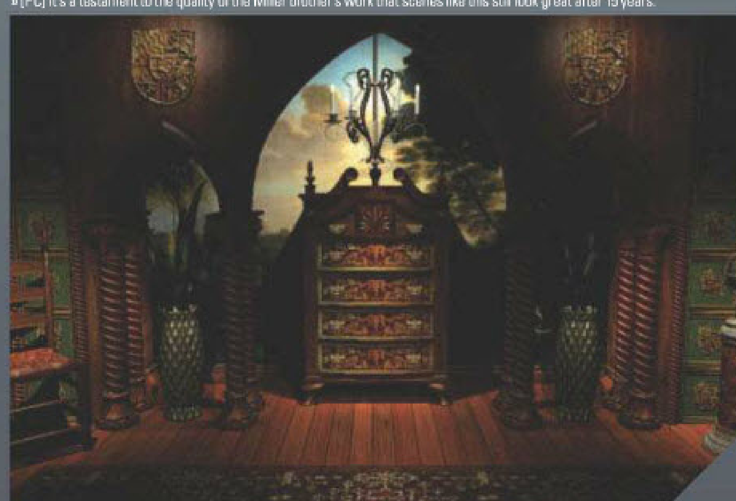
However, Robyn is quick to downplay the perceived significance of the game. "I don't think *Myst* was responsible for that change, but I do think it was something that represented that change. And that whole 'Miller brothers' thing represented some of that. That's one of those things about being in a place at the right time." This overnight success meant that the siblings were quickly heralded as poster boys for a new generation of game designers and even appeared in a Gap clothing commercial – an event that still puzzles Robyn to this day: "It was downright weird; like I was outside myself, watching this bizarre phenomenon taking place."

The healthy sales of the game (6 million copies sold to this day, and counting) proved one thing – the public adored it. However, many sectors of the gaming community were quick to turn their noses up at what they perceived to be a boring flick-screen puzzle game with no blood or gore (it's important to remember that id Software subjected the PC-gaming world to the visceral delights of *Doom* just a few months after the launch of *Myst*). Unsurprisingly, a negative critical reaction occurred, with several magazines granting *Myst* decidedly icy reviews. For once, the specialist press seemed hopelessly out of touch with the common gamer – but the response didn't surprise Robyn. "I think there was stuff that frustrated practised gamers. There were no command keys, there was only the mouse and one button, there was no avatar, the world was presented cinematically, and so on," he explains. "Because of all this, *Myst* may have seemed almost too simple to gamers who were used to things that looked and felt like games. And yet this is partly what made *Myst* so popular with the majority of our audience – those who'd never played a game before. To them, *Myst* was approachable; it felt real."

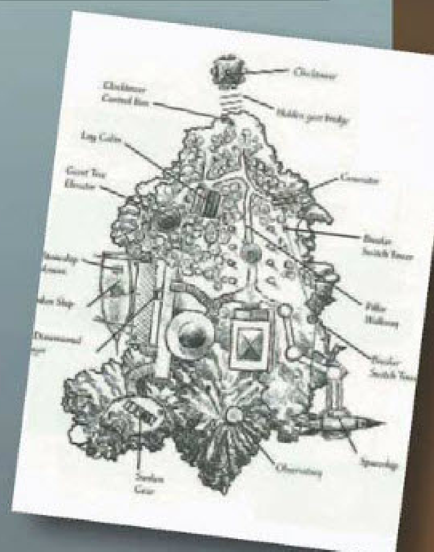
Although his brother Rand still heads Cyan Worlds, Robyn decided to part company after completing work on *Riven* in 1997 and now runs his own film production studio, known as Land of Point, as well as indulging his musical side as part of a group called Ambo. Although he's turned his back on the videogame industry for now, he's still visibly thrilled by the astonishing success that *Myst* has enjoyed. "Creating a world from that blank slate – it was a rare and wonderful opportunity," he says with a smile. "But like I said, we never could have foreseen the overwhelming response. It blew us away. Thanks a ton to everybody who ever played *Myst*. Thank you all, sincerely!"



» [PC] The Miller brothers really freed their minds when it came to creating some of the more unusual environments.



» [PC] It's a testament to the quality of the Miller brother's work that scenes like this still look great after 15 years.



MSX

THE JAPANESE MSX COMPUTER STARTED LIFE AS THE WORLD'S FIRST STANDARDISED COMPUTING HARDWARE BUT ENDED UP BEING NOTHING MORE THAN A HISTORICAL FOOTNOTE. IT DID HAVE SOME BLOODY GOOD GAMES, THOUGH, AS ASHLEY DAY REMEMBERS...





One of the greatest things about the 8-bit micro age was the sheer variety of machines and games available. The boom in popularity of home computing led almost every electronics firm of the day to manufacture their own games machines, and the UK was flooded with all manner of wonderful hardware and games to play on them.



It was a great time to be a games fan but also one of the most turbulent. There were the playground arguments about whose machine was best, of course, but there was also a huge problem for parents who, faced with so many choices, often didn't know which computer to buy. Game developers had the same problem: with new machines hitting the market every month, how could they know which would become successful and, therefore, which they should develop their games for? And those kids in the playground, they could only share and trade games if they happened to be using the same hardware as their friends.

Surely, the solution to these issues would be one universal hardware format that could eliminate the concerns of consumers and developers and ensure that no matter what game you bought, it would work on your own machine. It was a good idea in principle; after all, it had worked for the home video industry, as competing tape manufacturers gradually gave up on their own formats throughout the Eighties and came to support JVC's VHS standard.

One man with the vision to realise the dream of a unified gaming platform was Kazuhiko Nishi, a prominent figure in the Japanese games industry from its very inception. In 1977 he founded a publishing company called ASCII Corporation, which specialised in games magazines and launched the country's first micro-computer periodical, named *ASCII*, in the same year. In 1979, he joined Microsoft and became the vice president in charge of the Far East and, later, the director and vice president in charge of new technologies, all while maintaining a controlling interest in the ASCII Corporation. And it's during this time that he proposed the MSX standard.

On June 27, 1983, the MSX was officially unveiled to the world as a collaboration between ASCII and Microsoft. The former would control and license the hardware specification, while the latter would program the format's operating system and BASIC language. Impressively, the MSX group had already attracted a huge number of Japanese manufacturers to the cause, and big names like Sony, Toshiba, Panasonic and Yamaha, among many others, announced that they would release their own MSX machines in Japan.

The plan was simple yet brilliant. Every licensed manufacturer would be allowed to create any kind of computer they wished and badge it with the MSX logo as long as it incorporated a strict number of features. These were a Zilog Z80 processor, running at 3.58MHz; a minimum of 8kb RAM; a Texas Instruments TMS9918 Video Display Processor; a General Instruments AY-3-8910 sound chip; and a 32kb ROM containing the MSX BIOS and Microsoft's MSX BASIC. Compatibility between machines was achieved by making sure all models also featured the same keyboard, cartridge slot, and expansion ports, but manufactures could also add their own USPs like additional cartridge slots, tape drives, extra RAM, and so on. Many of these extra features were dictated by the way each company decided to position their own MSX model within the market. Some, like the Toshiba HX10, were sold simply as game machines and were produced to the lowest possible specification to remain affordable and were usually packaged with a pair of joysticks. Yamaha, meanwhile, marketed its MSX models as companions to the company's synthesizer keyboards and consequently built MIDI ports into most of its machines, bundling them with audio leads and music

Year released: 1983 (MSX) 1986 (MSX2) 1988 (MSX2+) 1990 (MSX Turbo R)

Original price: Various. Example - ¥16,500 (Toshiba HX10)

Buy it now for: £10-£80 depending on model

Associated magazines: *What MSX?, MSX Computing, MSX User, MSX Fan, MSX Ouendan*

Why the MSX was great… Though it failed to make a splash in the UK, the MSX was an important machine elsewhere around the world. It was the first taste of home computing for many in Japan, Holland and Brazil, was Microsoft's first real investment in videogames, nearly two decades before the Xbox, and the first computing 'standard'. It is remembered now for its weird and wonderful hardware variations and its catalogue of Japanese games that spawned several evergreen franchises.

> **"Manufactures could add USPs like additional cartridge slots, tape drives, and extra RAM"**
> ON THE MSX MODELS

INSTANT EXPERT

- **Nobody really knows** what MSX means. Microsoft claimed that it meant MicroSoft eXtended. Nishi, however, claims that it means Machines with Software eXchangeability.
- **The MSX computer** was popular in parts of Eastern Europe because it was very good at creating subtitles for illegally distributed foreign videotapes.
- **Some Konami games** had both a disk and cartridge in the box, but you'll struggle to find the carts these days. Many of them were bought separately by music enthusiasts for the SCC+ sound chip they contained.
- **Many MSX models** had two cartridge slots. Konami took advantage of this by building secrets into its games that you could only access with two cartridges at once - similar to the way that GBA games often unlock content in DS games now.
- **Konami released so** many MSX games that in 1998 it released a compilation of them for the Saturn and PlayStation. The *Konami Antiques MSX Collection* featured 30 such games but, sadly, no MSX2 titles.
- **The 'Beecard' format** used in NEC's PC Engine console was first used on the MSX. It was manufactured by Hudson and required a special adaptor cartridge to load it.
- ***Metal Gear 2: Solid*** *Snake* is probably the best MSX2 game. It was only officially translated in 2006, however, when it appeared as a bonus feature in *Metal Gear Solid 3: Subsistence* on the PS2.
- **A handful of** the MSX licensees later tried their hand at another 'single format' console: the unsuccessful 3DO.
- **Though Microsoft hasn't** been involved with MSX since 1988, the name lives on in the company: it's the internal product code for the Xbox.
- **A staggering 265** different MSX models are known to exist, but there may be more. Nobody knows exactly how many variations were manufactured.

COMMUNITY MSX SITES TO WATCH

MSX Museum bOX
www.passionmsx.org/msxgamesbox/museum/index.php

MSX Museum bOX is the best way to find out about the many variations of the MSX hardware. Organised by manufacturer and featuring over 200 photographs, it's a comprehensive archive that just keeps growing.



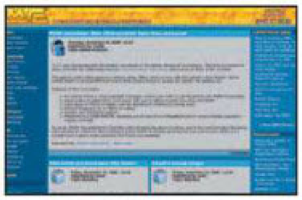
Generation MSX
www.generation-msx.nl

A bit like Lemon64 but for the MSX, this site has spent the last decade attempting to catalogue every MSX game. In addition to the games listings, you'll also find a library of historical images and a forum populated by friendly MSX gamers.



MSX Resource Center
www.msx.org

The most comprehensive English-language news service for the MSX. It can get a bit technical sometimes, but if you need to know about new translations and homebrew games, this is your first stop. The forum is friendly and helpful too.



The Ultimate MSX FAQ
www.faq.msxnet.org

As the name suggests, the Ultimate MSX FAQ is comprehensive, with all the info you'd ever need to know about the MSX and its software. Everything is covered, from a history of the project to in-depth analysis of the hardware and relevant info about the fan community.







» The MSX achieved some success in the Netherlands, as evidenced by this example.

software. Others, like Sony, aimed their hardware at the professional markets, fitting the machines with as much RAM as possible and often building floppy disk drives and even Laserdiscs or VHS samplers into the hardware.

The diversity of the early MSX models was instrumental in gaining a foothold in Japan. Consumers could buy with confidence, knowing that any MSX-branded software or hardware they bought would work with their own machine, while the different price brackets meant that dedicated users could buy a high-end machine for the workplace and a much cheaper, but fully compatible, machine for the home. The standard was considered a success and, with the combined force of its licensees, became a worthy contender to other Japanese computers of the time, like NEC's PC98 series.

This early success naturally attracted the attention of a number of videogame publishers and many of Japan's best soon began to support the standard. Konami, Hudson, Square, Compile, Enix and Falcom all developed and published several games for the system, and many of those companies' most famous franchises began life on the MSX.

Having gained a strong position in Japan, the MSX Association naturally set its sights on the US market next, but things didn't go so well this time. The US, of course, had been gripped by Commodore fever since 1982, and only a fool would gamble on an outsider taking away the C64's formidable market share with a technically inferior machine. Only one US company, Spectravideo, bothered to license the standard in 1984 and had little impact on the market. Yamaha also brought some of its MSX models over to the US, but they were marketed under the umbrella of music technology and went ignored by games fans and computing enthusiasts.

> **"The MSX was attacked as a foreign import"** ON THE FAILURE OF THE UK MSX

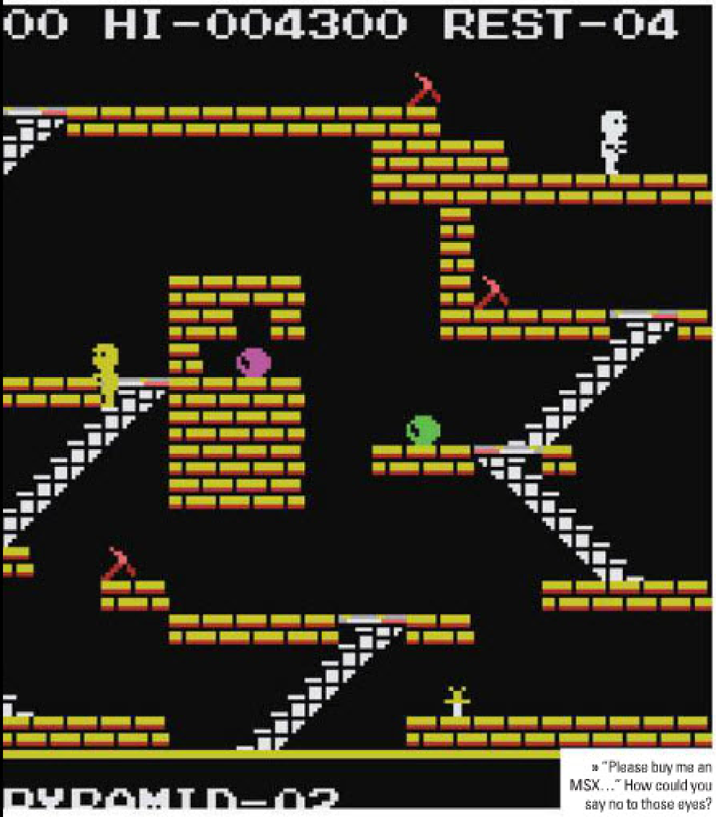
Retreating from the US, never to return, the MSX Association concentrated on other, less monopolised territories instead. Seeing the widespread use of 8-bit micros in Europe, the alliance moved in to take advantage of the eager consumer base. Some of the Japanese licensees, particularly Toshiba, created PAL versions of their low-end machines for Europe, while Dutch electronics giant Philips became an official licensee and one of the format's biggest supporters worldwide.

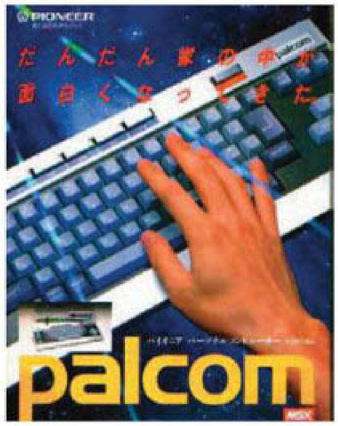
In the UK, the MSX was met with a mixture of indifference and animosity. As in the US, the underpowered hardware made MSX games look weak in comparison to Commodore 64 titles, while the more impressive games, such as Konami's excellent arcade ports, were only released on cartridge and seemed vastly overpriced in comparison to the tape software that most were used to. As a result, the UK MSX became lumbered mostly with second-rate ports of Spectrum games and was once venomously attacked in a *Crash* editorial as a foreign import that could rob British developers of their national identity.

With its confused catalogue of software and one of the country's favourite games magazines dead against the system, the MSX never really took off in the UK, but it did perform well in other parts of Europe. Holland, in particular, embraced the machine with open arms. This was the home country of Philips, after all, which relied upon national goodwill toward its own brand, as well as its truly excellent hardware variations, to take a firm grip of the Dutch computer market. To this day, the MSX remains extremely popular in what is now the Netherlands,

» Kazuhiko Nishi addresses attendees of a Dutch MSX convention in 2001 and reveals his plans for the 'MSX Revival'.

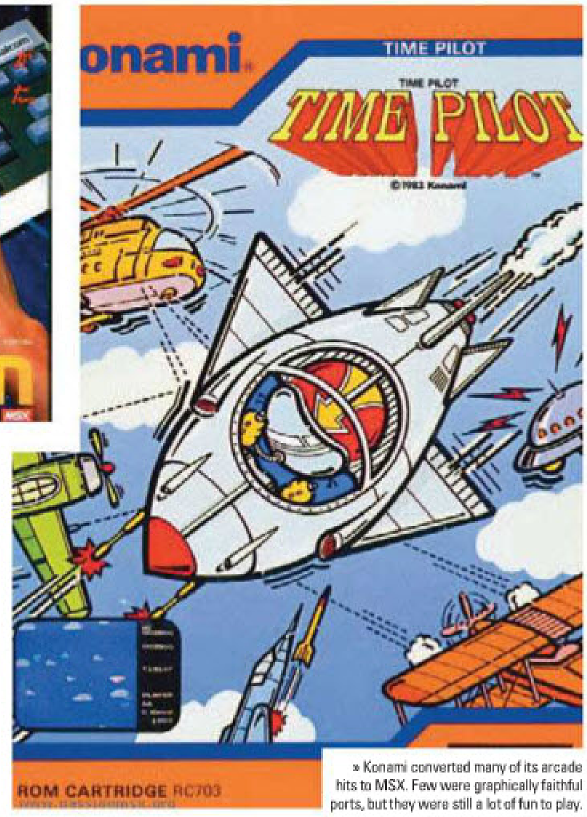








» "Please buy me an MSX…" How could you say no to those eyes?



» Konami converted many of its arcade hits to MSX. Few were graphically faithful ports, but they were still a lot of fun to play.

where it is remembered with the same fondness as the Spectrum and Amstrad are in Britain.

Other territories outside of Japan that also embraced the MSX system include Brazil, which explains the huge number of Portuguese-language fan sites on the web, and Saudi Arabia, where the standard became the first home computer to be made available in the country. Pioneering Saudi Arabian technology affiliates Sakhr and Al-Alamiah licensed several MSX models and created the world's first Arabic word-processing standard around the machines, a move that ensured the companies a place in the computing industry that survives to this day.

Despite its great start in Japan and limited success throughout the rest of the world, the MSX didn't have many more years left in it, and by the mid-Eighties it was starting to look quite dated in comparison to other computers. By 1985, European gamers eagerly cast their gaze westward, to the fledgling Amiga and Atari ST formats with their incredible 16-bit performance. Meanwhile, closer to home, Nintendo's Famicom had achieved dominance of the Japanese videogame industry and threatened to crush MSX under its giant red and white boot. Although both machines were technically both 8-bit, Famicom games appeared far superior thanks to a number of flaws in the MSX design. The way in which the MSX addressed its video RAM was relatively slow and prevented smooth scrolling from screen to screen, thus limiting most of the MSX's games to flip-screen visuals. In addition, the computer's high-res mode wasn't quite up to scratch and created a colour-clash effect similar to the one that plagued Spectrum games.

These flaws were acceptable by the standards of 1983, but they soon made the MSX look old and rusty as new machines entered the market, and so the MSX group designed a new format that could compete with its contemporaries while remaining backwards compatible with the original software. This new standard was simply named MSX2 and, in addition to the usual hardware upgrades such as a faster processor and extra RAM, the graphics chip had five new video display modes built in. Some of these allowed games to play in high-res without colour clash, others were used to display digitised images on title screens or in desktop publishing software. In-game scrolling was slightly smoother on the MSX2, although it did cause some sprite flicker in the most complicated games. Most MSX2 machines also featured a 3.5-inch floppy disk drive, which allowed developers to produce their software at a greatly reduced cost in comparison to cartridges and gave home users a much more reliable storage solution than cassette tapes.

In some ways the MSX2 was a huge success, but in other ways it was an equally large failure. The standard was completely ignored in the US and UK and was not widely adopted in the poorer regions like Eastern Europe and South America, which left only Holland and Japan to keep the MSX flag flying. As before, Philips happily licensed the MSX2 technology and produced some wonderful hardware under the standard. Japanese licensees weren't as supportive as they had been for the original MSX, but many of the biggest manufacturers, such as Sony, Samsung and Panasonic, continued their support and created all manner of MSX2 units.

Although the MSX's global presence was notably shrinking, the support of manufacturers in Japan and Holland ensured that the format held on to its two key territories and many game developers consequently stayed with the machine. Konami, the biggest Japanese developer of MSX games, had moved on to the Famicom but had kept its MSX division alive, and it is in the MSX2 period that this division created its greatest games and, therefore, the best games on the system. With *Metal Gear* creator Hideo Kojima still posted to the MSX

» Kazuhiko Nishi: the father of the MSX.





VERSIONS SOME OF THE BEST



NATIONAL FS4500

Japan's National Corporation licensed the MSX format in order to create its own series of word processors, and the FS4500 is one of the most interesting. Not only does it have plenty of software built in, but the hardware includes a 24-dot thermal printer.



NTT CAPTAIN

CAPTAIN stood for Character And Pattern Telephone Access Information Network and was an early state-run BBS in Japan that looked similar to Teletext. NTT created machines that allowed home users to access the BBS and this particular model was MSX2-compatible.



TOSHIBA HX10

If you're from the UK and owned an MSX in the Eighties, chances are you owned the Toshiba HX10. It was the most widely available model and is still the one most often seen on eBay. It's a basic, unremarkable MSX model, but it came with lots of documentation.



ZEMMIX CPC-50

This console was manufactured by Daewoo and released only in Korea, where its software arm, Zemina, supported the console. The majority of its cartridges were apparently unofficial versions of Japanese Konami games and hacks of Nintendo Famicom games.



1CHIPMSX

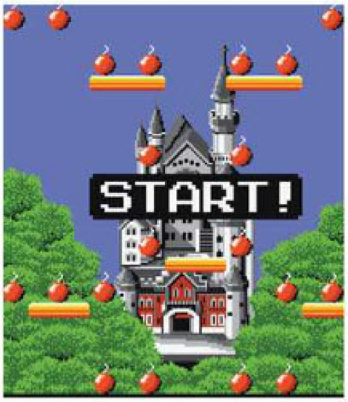
The last official MSX hardware was created as recently as 2006 by the MSX Association and D4 Enterprise, which plays real cartridges or ROMs from an SD card. The console was intended for European release in 2007 but those plans have seemingly failed.

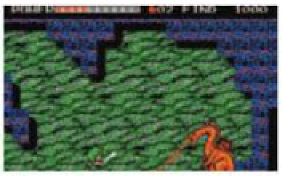




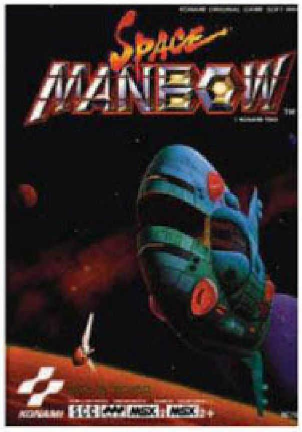
» Caught on camera: this still from a Nineties news report shows a Sony MSX machine in use aboard the International Space Station.

» The MSX has an extremely healthy homebrew following, kept active by yearly competitions and fairs. There are some great little arcade-style games available as ROMs or even semi-professional disks and carts.









» *Penguin Adventure*, one of the best MSX games and one of the most emotional title screens in history.



team, the format benefited greatly from the designer's newest creations like *Metal Gear 2: Solid Snake*, *Snatcher*, and *SD Snatcher*. Other Konami teams also created their own brilliant games, such as the horizontal shoot-'em-up *Space Manbow*, *Ganbare Goemon* (*Mystical Ninja*), and *Vampire Killer* (*Castlevania*). The likes of Capcom, Compile, Namco and Taito all released games for the MSX2, many of which were arcade conversions that were much more accurate than their MSX equivalents, and the format received a known 1,200 games in its lifetime. But that wouldn't be enough to save the MSX's skin…

Ever aware that the MSX was fighting a losing battle, Kazuhiko Nishi struggled to understand why more people were not interested in his machine. Offering an MSX to his grandmother, he pointed out all of the things she could do with it. "You can write letters," he said. But she told him she could already do that with a pen and paper. "You can work out stock prices," he countered, to which she held up her calculator. Finally, he explained that she could use the machine for entertainment. "But," she said, "I have a TV for that."

Nishi thought long and hard about how he could make the MSX relevant to the lives of ordinary people. He considered technologies that had been widely adopted throughout Japanese households like television, radio, and the telephone and realised that they all had one thing in common: they existed in a communications network. If only he could network all of the MSX systems to communicate with each other, as well as receive software from a remote broadcaster, then consumers would feel like they were missing out on something without one in their home. He was, of course, thinking about the internet, but this was 1986 and such technology was still in its infancy, way out of the reach of affordable home electronics for at least another ten years.

In the meantime, the MSX group took another stab at perfecting the hardware, although this time they did it without Microsoft, which had washed its hands of the MSX and declined to improve any of the built-in software. This was presumably because the IBM PC was picking up speed in the west and Microsoft didn't need to compete with its own Windows 2.0 operating system.

In 1988, instead of creating an entirely new machine, ASCII designed the MSX2+, which included a built-in 9-channel FM synthesizer, the ability to display still images in up to 19,000 colours, and three new video modes, one of which totally eliminated the flickery scrolling that had plagued the MSX since 1983. The hardware itself featured two sliding dials – one to change hardware speed and the other to enable auto-fire – as well as an import-friendly RGB output.

Sadly, but quite inevitably, support of the MSX2+ was even weaker than for the previous two machines. As the new machine was quite rightly seen as a meagre update to the MSX2 and not a serious market challenger, most MSX licensees didn't see the point in producing new hardware. Only Sony, Sanyo, and Panasonic ever developed any MSX2+ computers, and

only a handful of games were ever made exclusively for the system.

When it became time to think about creating an MSX3 in 1990, Nishi cast aside his ambitious network ideas and set his sights on the CD-ROM. Noting that console manufacturers like Sega and NEC planned to add CD-ROM drives to their consoles, ASCII considered integrating CD-ROM as standard into the next MSX hardware but eventually decided against it because it felt the seven-year-old medium would soon be superseded. It was right, of course, but it would take another seven years before DVD would materialise.

Not embracing the CD-ROM was arguably the last straw for the MSX manufacturers. Philips, the original creator of the CD, hadn't supported MSX for some time and by 1990 it was clear why. The Dutch giant was working on its own computer technology, the CD-based CD-i, which was sure to be capable of much more than the now extremely dated-looking MSX. Sony, likewise, had moved away from MSX and toward CD, as it worked secretly with Nintendo on the SNES-CD project, which was due for release in 1991 but would eventually resurface in 1993 as the Sony PlayStation.

By 1990, the list of MSX licensees had dwindled to just one: Panasonic, which helped create the final MSX standard, known as the Turbo R. Two variations of this underpowered 16-bit machine were created, but both went by unnoticed. The Turbo R was too little, too late. The format's once-loyal developers knew it and shifted their allegiance over to Nintendo, Sega and NEC, if they hadn't already done so. The MSX was dead and Nishi finally turned his back on the system, choosing to concentrate on ASCII's other business interests and taking a job as a Media Engineering lecturer at the Tokyo Institute of Technology.

In truth, though, the MSX had really died around the introduction of the 2+. The earliest success of the MSX came from a strength in numbers, afforded by the combined brand identities and market presence of the system's licensees. But as ASCII failed to improve upon the MSX specifications in ways that appealed to those licensees, their numbers dwindled to the point where not enough machines were manufactured to attract the software developers. From there the MSX fell into a spiral of decline. As fewer developers created new software, the machines became less attractive to consumers and licensees saw fewer reasons to manufacture more hardware. And then, of course, IBM and Microsoft virtually created the modern-day computing standard with the Windows-based PC, a format so successful

"Nishi was thinking about the internet in 1986, when such tech was still in its infancy"

THE UNFULFILLED FUTURE

that it relegated the MSX to the status of failed experiment.

And that's where our story ends.

Except it doesn't, because in 2001 Kazuhiko Nishi made a shock appearance at an MSX fair in Tilburg, the Netherlands, and announced his plans to revive the MSX format. Speaking to surprised attendees at the show, Nishi openly discussed the lengthy history of the MSX format and declared that there was still a place in the world for the MSX.

As it turns out, that place wasn't a brand new world-conquering system but an actual 'revival' that would enable new users, as well as enthusiasts, to experience the retro MSX in a brand new way. Under the name of the MSX Association, of which Nishi is the chairman, the revival began with the release of the MSXPLAYer, a small USB device that allows real MSX cartridges to be plugged into a PC and played on an official MSX emulator. Next, the association worked with D4 Enterprise on Project EGG, another official emulation program that allowed both old and new MSX software to be downloaded for a small fee and played on a PC. A European version of this project, called WOOMB.net, was also started by a company called Bazix in 2006, but it was sadly discontinued in June 2008, due to a disagreement with the MSX Association.

Finally, in 2006, the MSX Association teamed with D4 Enterprise and ESE Artists' Factory to produce the first new MSX hardware in sixteen years. Known as the 1chipMSX, the new hardware uses an FPGA chip with the full MSX2 chipset programmed into it and can play commercial MSX cartridges as well as downloaded ROMs on an SD card. The 1chipMSX is due to be released in Europe in the future, once the MSX Association finds a suitable distributor. Until then, if you want one you'll have to keep an eye on eBay or trawl a few game stores in Tokyo, where **Retro Gamer** found our own unit.

Quite what the future holds for the MSX, we do not know, but we doubt that it will remain a relic of the past like so many other 8-bit micros of its time. The original creator still holds the rights to the name and is clearly intent on keeping it alive, and when it comes to a guy like Nishi, who can throw the sort of curve balls that he did with the announcement of the latest MSX revival, literally anything could happen in the next few years.

KONAMI KOMBOS

Several MSX machines had two cartridge slots built in, a feature that Konami made smart use of by unlocking cheats and Easter eggs in some of its games by combining them with others. Here are some of the most interesting combinations to try.

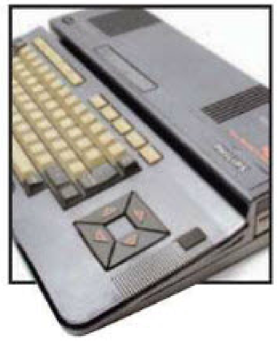
- ***Yie Ar Kung-Fu 2* with *Yie Ar Kung-Fu*** - Just before death, your father appears with a nice cup of tea.
- ***Nemesis* with *Twinbee*** - Replaces the Vic Viper with a Twinbee and the power-ups with bells.
- ***Ganbare Goemon* with *Q*Bert*** - Unlocks a hidden level select mode and pause function.
- ***The Maze Of Galious* with *Knightmare*** - You can revive the player 99 times rather than the standard one.
- ***Nemesis 2* with *Penguin Adventure*** - Changes the Vic Viper to a penguin and power-ups to fish.
- ***Usas* with *Metal Gear*** - You lose half the usual amount of energy
- ***Salamander* with *Nemesis 2*** - Unlocks a secret final level.

SPECIFICATIONS

MSX: 3.58MHz Z80 processor, 8kb-128kb RAM, 16kb video RAM, 256x192 resolution (with 16 colours), AY-3-8910 sound chip

MSX2: 3.58MHz Z80 processor, 64kb-512kb RAM, 128kb video RAM, 512x212 resolution (with 16 colours), 256x212 resolution (with 256 colours), YM2149 sound chip

MSX Turbo R: 7.16MHz R800 processor, 256kb-512kb RAM, 128kb video RAM, 256x212 resolution, YM2149 sound chip





MSX



PERFECT TEN GAMES

Owing to its high cost, and non-existent retail support, the MSX was constantly overshadowed by the Spectrum, C64 and the CPC in the UK. It's a real shame because the MSX provided a whole host of fantastic games, and even proved the early stomping ground for many of videogames' most popular franchises. Here's the proof.



01

SPACE MANBOW

- » **RELEASED:** 1989
- » **PUBLISHER:** KONAMI
- » **CREATED BY:** KONAMI
- » **BY THE SAME DEVELOPER:** SPARKSTER

01 Not only the greatest shoot-'em-ups on the MSX, but one of the best shoot-'em-ups period. Konami's wonderfully titled *Space Manbow* is a mesmerising tour de force for the machine that captivates and engages from its opening level – a wonderfully grounded take on the Bydo frigate stage in *R-Type*. From here the game continues to impress, thanks to fantastic arcade visuals, a strident soundtrack and frenetic shoot-'em-up action, which scrolls smoothly, both vertically and horizontally, with very little slowdown when things get busy. While rare and expensive to come by these days – a complete boxed version will cost you around £100 – *Space Manbow* is wholly worth seeking out for any MSX collection.

ALESTE 2

- » **RELEASED:** 1990
- » **PUBLISHER:** COMPILE
- » **CREATED BY:** COMPILE
- » **BY THE SAME DEVELOPER:** PUYO PUYO

02 Three *Aleste* games appeared on the MSX, and all are worth seeking out. While the final game in the trio, *Gaiden*, would supplement air, jets and spacecrafts with Japanese robots suits and floor, there's really not much separating the games in terms of their quality. Compiles' popular shoot-'em-up franchise is fabled for its repetitious open-feeling levels, fast-paced gameplay, deep weapon system and a neat mechanic whereby the very touch of a power-up will grant you momentary invulnerability. As we can only pick one game, it has to be *Aleste 2* because it looks superb, allows you to select your weapons at the start of the game, and is the first title in the canon to feature reoccurring protagonist Ellinor.



02

PENGUINADVENTURE

- » **RELEASED:** 1987
- » **PUBLISHER:** KONAMI
- » **CREATED BY:** HIDEO KOJIMA (KONAMI)
- » **BY THE SAME DEVELOPER:** SNATCHER

03 This follow up to *Antarctic Adventure* finds heroic penguin Pentaro seeking a cure for a sick penguin princess who has succumbed to a deadly plague. Getting shot to notoriety late in life for being Hideo Kojima's first published title for Konami, *Penguin Adventure* is one of the finest, and most tech-savvy games, to appear on the MSX. The game is essentially an action racing game, viewed from that into the screen perspective, and starring a cast of sickeningly cute penguins. Penguin games simply don't get better than this.

VAMPIRE KILLER

- » **RELEASED:** 1986
- » **PUBLISHER:** KONAMI
- » **CREATED BY:** KONAMI
- » **BY THE SAME DEVELOPER:** GRADIUS

04 Booting up the more established NES port beside this one reveals that Konami made a few changes to the gameplay for the MSX2. *Vampire Killer*, which marks the first time a Belmont ever set a foot down on European soil, swaps out and out action for a more considered 'search for a bunch of keys in a castle' action, and is no better for it. Why Konami felt the need to go and mess with the original is a mystery – we can only think that perhaps Konami felt that people who play games with keyboards need something deeper to sink their teeth into. Anyway, *Vampire Killer* is still immensely playable and is a must have for any MSX collection.

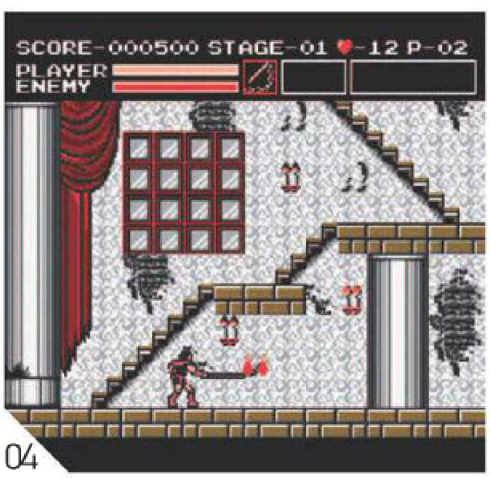
BOMBER MAN

- » **RELEASED:** 1984
- » **PUBLISHER:** HUDSON SOFT
- » **CREATED BY:** HUDSON SOFT
- » **BY THE SAME DEVELOPER:** MARIO PARTY

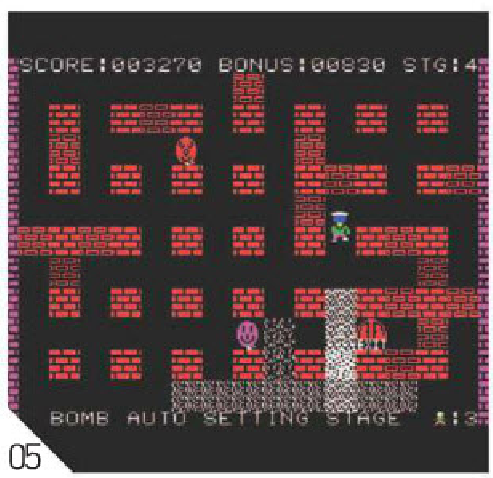
05 Spectrum owners will recognise this game as *Eric And The Floaters*, but the game's MSX version went under the more familiar and seminal title of *Bomber Man*, and marked the first appearance of Hudson Soft's infamous bombardier. This maze-based action game finds our hero looking less like a cute Japanese robot and more like Miner Willy (circa *Jet Set* era) with a blue mullet (only visible in the MSX version). Wonderfully addictive, and brilliantly simple to grasp, while there are far better versions of the game available now, this early effort proves good games never die.



03



04



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SPECIAL THANKS TO GENERATION-MSX.NL FOR ADDITIONAL SCREENS







06



07



08

METAL GEAR 2: SOLID SNAKE

- » **RELEASED:** 1990
- » **PUBLISHER:** KONAMI
- » **CREATED BY:** HIDEO KOJIMA
- » **BY THE SAME DEVELOPER:** POLICENAUGHTS

06 **As if the** games themselves weren't confusing enough, the timeline doesn't help. There are actually two versions of *Metal Gear 2* – one by Konami that was released for the NES, the other by Kojima that was released for the MSX. To be frank, both games are good, but the MSX sequel is the better game. For a start it has its creator back at the helm, secondly it introduced a bunch of popular characters into the series, such as Campbell, Miller and Gray Fox, and it also employed some nice touches to the gameplay, like using carrier pigeons, hang-gliding and even tap codes.

SD SNATCHER

- » **RELEASED:** 1990
- » **PUBLISHER:** KONAMI
- » **CREATED BY:** HIDEO KOJIMA
- » **BY THE SAME DEVELOPER:** ZOE: ZONE OF THE ENDERS

07 **Like *Metal Gear*** before it, Kojima succeeds in creating an emotive narrative around the limitations of the hardware. Following a similar plot to the original – Gillian is still trying to eradicate the body-pinching Snatchers – this switches the cinematic anime look of the original for a more cartoon feel. It also drops the point-and-click comic book gameplay for an overhead *Zelda* perspective. Engaging enemies in combat also switches the viewpoint to a first-person battle screen, where players could pinpoint specific body parts they wanted to attack. Easily one of the most immersive adventure games on the system.

GOLVELLIUS 2

- » **RELEASED:** 1987
- » **PUBLISHER:** COMPILE
- » **CREATED BY:** COMPILE
- » **BY THE SAME DEVELOPER:** ALESTE

08 **Compile had an** excellent track record on the MSX. Sadly, though, the company closed its doors in 1992 and many millions of people wept into their MSXs. Anyway, if you're looking for a *Zelda*-like adventure for your machine you won't go far wrong with *Golvellius 2*. The series began life on the MSX and the Master System, but would later get a confusingly titled remake for the MSX2. Viewed from a similar perspective, and featuring an overworld style map and dungeon exploration similar to *Zelda*, the game's fluidity, action, visuals and variety make it a real must for any role-playing game fan.



09

YUUREIKUN (AKA MR. GHOST)

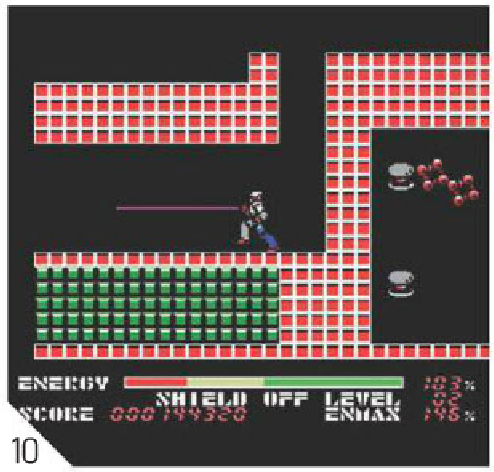
- » **RELEASED:** 1989
- » **PUBLISHER:** SYSTEM SACOM
- » **CREATED BY:** SYSTEM SACOM
- » **BY THE SAME DEVELOPER:** MARCHEN VEIL

09 ***Mr. Ghost* is** a side, and vertical (the game alternates between the two), scrolling shoot-'em-up where you play a buck-toothed ghost who's being bullied by other ghosts, jumping spiders, and crows, probably about his prominent teeth. *Mr. Ghost* plays remarkably close to Irem's *Mr Heli*, so much so that they could, in fact, be related. Both games let your character move in eight directions, both allow you to deform parts of the environment, and both have a super-deformed look to them. What sets this game aside, though, is its combat system. Mr Ghost dispatches a little sperm looking ghost at enemies and can only redeploy him after he's returned. Mr Ghost can also perform a bum rush to destroy enemies sneaking up behind him or break bricks.

THEXDER

- » **RELEASED:** 1986
- » **PUBLISHER:** GAME ARTS
- » **CREATED BY:** GAME ARTS
- » **BY THE SAME DEVELOPER:** GRANDIA

10 **This great giant** robo side-scrolling shoot-'em-up is a great example of the genre. The player assumes the role of a *Robotech*-esque robot with the power to transform into a jet plane (the transformation effect in the game is actually pretty impressive), and must negotiate a series of labyrinthine stages – often by repeatedly switching between the robot's two forms – before getting blown to smithereens by patrolling enemy droids. It's a really simple premise but one that becomes strangely addictive. The puzzle/strategy element, and honing laser (which is only available to you in your robot form) also kind of gives *Thexder* an air of *Bangai-O* (admittedly only a very slight one), which can only be a good thing.



10

MSX and the rest...

With its eclectic range of British and Japanese titles, there's nothing quite like ploughing through the MSX's back catalogue. How many of the following games do you remember playing?

01 DECATHLON
02 MSX SOCCER
03 STAR SOLDIER
04 MR. DO!
05 BLAGGER
06 ALESTE
07 10-YARD FIGHT
08 SINBAD
09 PAC-MANIA
10 OUTRUN
11 MAPPY
12 CIRCUS CHARLIE
13 ARCTIC
14 RAMBO
15 Q*BERT
16 THE FAIRYLAND STORY
17 ELEVATOR ACTION
18 TEAR OF NILE
19 PITFALL!
20 BRUCE LEE
21 VAMPIRE KILLER
22 MSX RUBY
23 YIE AR KUNG FU
24 PREDATOR
25 1942
26 ALIEN 8
27 BANK PANIC
28 DRUID
29 MOON PATROL
30 IKARI
31 SEWER SAM
32 ZOIDS
33 SPACE MANBOW
34 PITFALL 2
35 ACTMAN
36 B.C.'S QUEST FOR TIRES
37 COASTER RACE
38 KORONIS RIFT
39 KING KONG 2
40 FANTASY ZONE
41 THE GOONIES
42 HANG ON
43 TIME PILOT
44 ZANAC EX
45 TETRIS
46 RASTAN SAGA
47 LODE RUNNER
48 ARKANOID 2
49 BACK TO THE FUTURE
50 HYPER SPORTS
51 HEROES OF THE LANCE
52 DRAGON QUEST
53 GALAGA
54 PAC-MAN
55 HOLE IN ONE
56 GRADIUS II

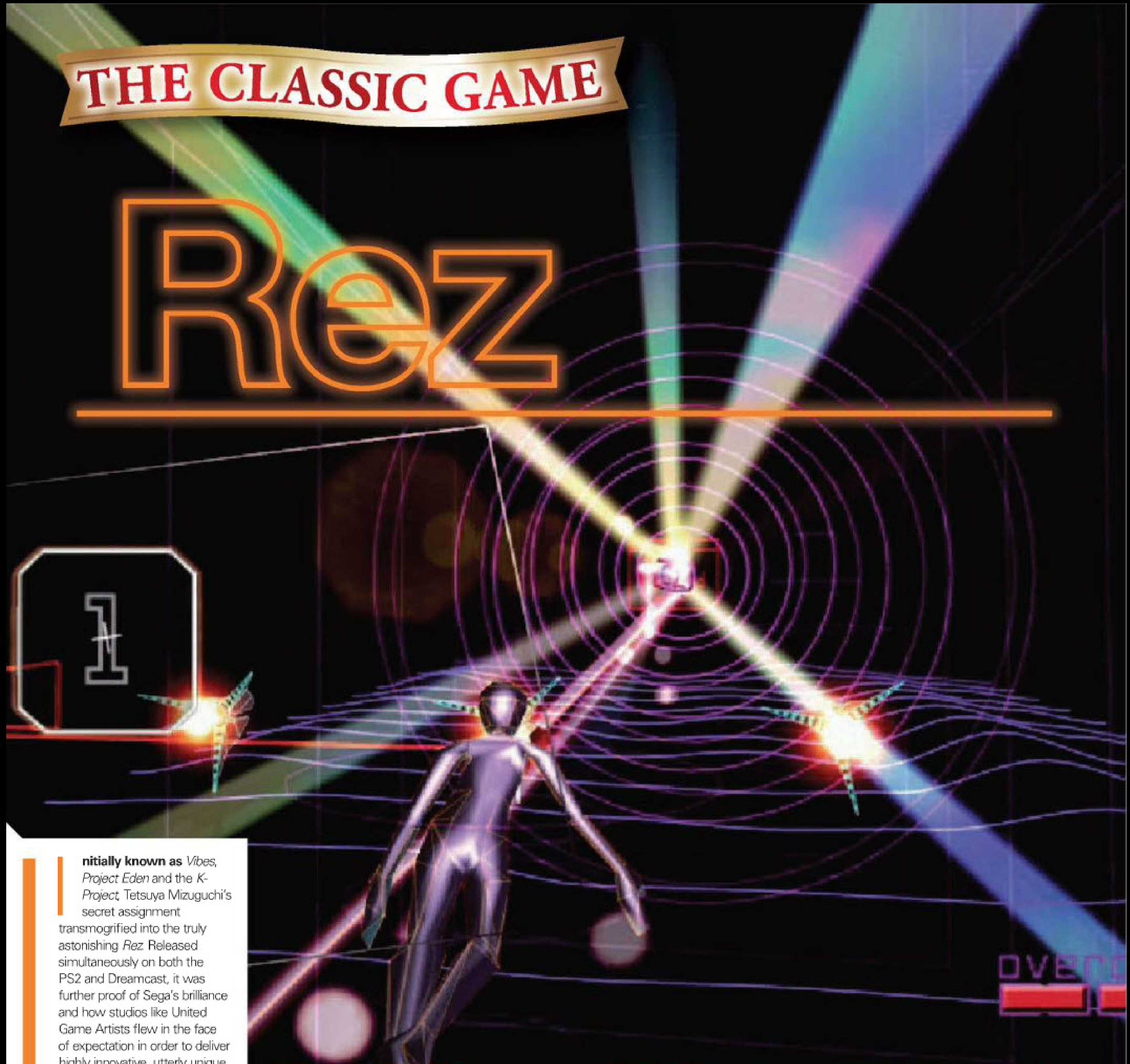




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LIGHT YEARS
EXTRA TIME
キングコング2
DANCE

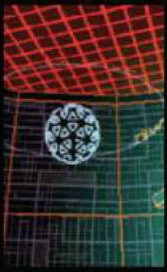
THE CLASSIC GAME

Rez



I nitially known as *Vibes*, *Project Eden* and the *K-Project*, Tetsuya Mizuguchi's secret assignment transmogrified into the truly astonishing *Rez*. Released simultaneously on both the PS2 and Dreamcast, it was further proof of Sega's brilliance and how studios like United Game Artists flew in the face of expectation in order to deliver highly innovative, utterly unique videogames. Some regard it as the highest form of videogame art that's currently available, while others see it as a bland and soulless shooter.

While we wouldn't really agree with either, there's no denying that Mizuguchi's game is one of the most enthralling experiences around, and while it certainly isn't to everybody's taste, it remains one of the greatest on-rails shooters we've ever played. Join Darran Jones then as he examines the majesty that is Sega's *Rez*.



ZERO FORM
Get hit in this spherical form and it is game over for you. Needless to say you better be careful.



FIRST FORM
Taking on the shape of a humanoid, you need to evolve from this form as quickly as possible.



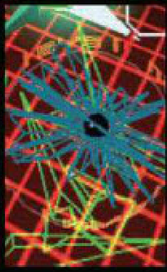
SECOND FORM
Now you're getting somewhere. You still look fairly basic but you're definitely starting to evolve.



THIRD FORM
Your fully formed humanoid shape, looking very funky. Your next ascension is even weirder.



FOURTH FORM
This is our favourite evolution, as it reminds us of that spaceship in *Flight Of The Navigator*.



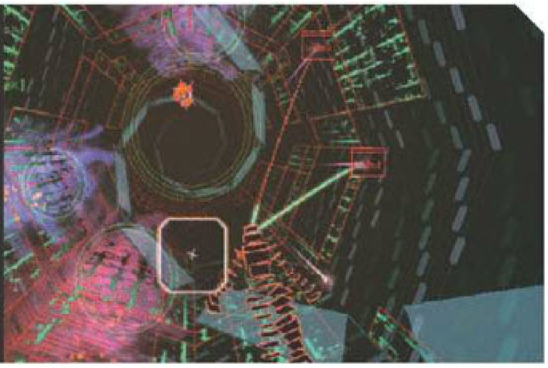
FIFTH FORM
This jagged amoeba is a step away from achieving oneness. It also reminds us of a Futurama episode.



SIXTH FORM
Your final form is quite possibly the creepiest of the lot, looking more than slightly foetal.

MEMORABLE MOMENTS

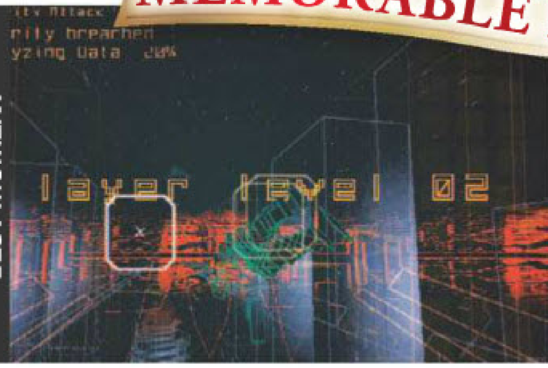
WHY IS IT A CLASSIC?



Fusion Frenzy

Everything, really. *Rez* initially appears to be a simplistic, linear on-rails shooter, but completion of each stage and the opening of subsequent score attack modes reveals that it's anything but. Then there's the incredible atmosphere, beautiful abstract imagery and tightly honed gameplay. Ultimately, however, *Rez* excels due to the way it skilfully weaves game and sound design to create one of the most enchanting, enthralling videogame experiences around. If you haven't played *Rez* on a big TV screen, with the lights off and the audio blaring out of your sound system, you really haven't lived.

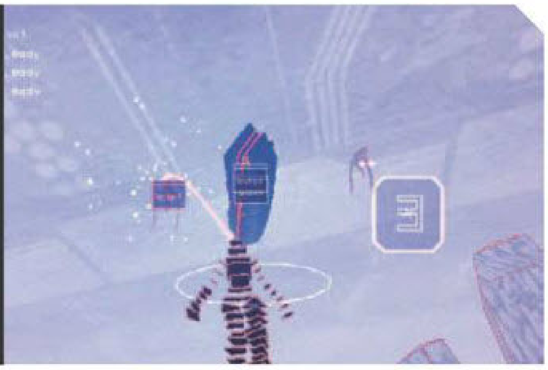
BEST MOMENT



Layer Cake

Rez is full of wonderful moments, but one of the most impressive is when you break through a new layer. Each level typically consists of ten stages that slowly add more visuals and enhanced music as you pass through them. Hit a waypoint and your avatar gets thrust forward; the screen melts away and the audio goes into overdrive. It's a totally mesmerising effect that still fills us with excitement to this day. The transition is made all the sweeter by the tactile rumbling, should you have the relevant peripheral equipped, which further immerses you in the on-screen action.

BEST LEVEL



Evolution

Each of *Rez*'s levels dwells in the memory long after they've been completed, but it's the final stage that leaves the biggest impression. It's essentially an evolution of life and, as Adam Freeland's superb track *Fear* builds in the background, you're treated to some of the most wondrous visuals to ever appear on Sega's machine. Initially you're passing wispy, unfocused images, with your journey starting off in the sea. As it progresses, however, surroundings take on more substance, you're eventually thrust upon solid land, and the level's final moments take place high above the Earth's surface. Simply magnificent.

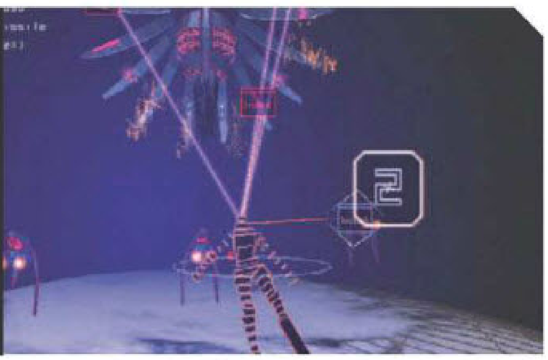
BEST BOSS



The Running Man

Rez is filled with unique boss encounters, but if we had to pick a favourite it would easily be the monstrosity found at the end of Stage 4. Flying through a twisting maze of blocks, you encounter a UFO that constantly changes shape thanks to the huge number of blocks that it drags behind itself. Eventually the huge mass solidifies and turns into a gigantic sprinting man that powers its way through long, winding tunnels as you struggle to keep up. It's a breathtaking encounter that's made all the better by the thumping soundtrack that accompanies the action.

BEST MUSIC



"It's A Mind Killer"

It seems a shame to once again credit *Rez*'s fifth stage when every level in the game is an audial and visual delight, but no other track matches the sheer majesty of *Fear*. Skilfully layered to match the on-screen evolution, it slowly builds in tempo and evolves just as much as the action. One minute it's dark and exceptionally moody; the next the sheer beauty of what you're hearing can lift your spirits. It's a masterful track that once again proves just how skilful Mizuguchi and the rest of United Game Artists were at blending gameplay and music for this game.

WEIRDEST VERSION



Feel The Vibe

If there's one thing that makes *Rez* stand out from every other game it's the Trance Vibrator, packaged with the PS2 special edition. The USB device would pulse in time to *Rez*'s music, with far more power than a DualShock. Although designed as a way to extend the synaesthesia, it has reportedly been used for… ahem… naughtier things. The device was also compatible with Sega's *Space Channel 5: Part 2* and Irem's *Disaster Report*. *Rez HD* owners can pull off a similar, more powerful effect by using up to three additional 360 pads and strapping them to various parts of their body. We kid you not.

What the press said… ages ago

Play (73%)

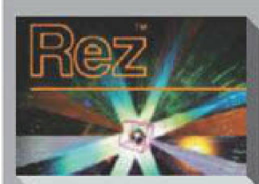
"In wishing to both typify and exaggerate the visual style of a bygone age, *Rez* ultimately commits the cardinal sin of placing graphics before gameplay – a facet attributable to Sega's desire for the title to be seen as art."

NTSC-uk (9/10)

"The fact that the game can stimulate such debate and wonder and remain, even now, huge fun to play is something for Tetsuya Mizuguchi and his very talented team to be rightly proud of."

What we think

Rez is definitely a Marmite experience, but there's no denying that it remains an incredibly accomplished piece of work. No other videogame has ever managed to successfully combine vision, gameplay and audio like *Rez* did, and while Mizuguchi has come close many times since, *Rez* remains easily his greatest achievement.



IN THE KNOW

- **PLATFORM:** DREAMCAST/PS2
- **PUBLISHER:** SEGA
- **DEVELOPER:** UNITED GAME ARTISTS
- **RELEASED:** 2001
- **GENRE:** SHOOT-EM-UP
- **EXPECT TO PAY:** £40+



IN THE KNOW

- » **PUBLISHER:** CAPCOM
- » **DEVELOPER:** IN-HOUSE
- » **PLATFORM:** ARCADE
- » **RELEASED:** 1989
- » **GENRE:** PLATFORM
- » **EXPECT TO PAY:** £100+ FOR AN ORIGINAL PCB





Inspiration can come from the most unlikely of places, as Darran Jones discovered when he quizzed Strider co-creator Kouichi Yotsui

"I had gone up to the rooftop in order to reflect on my mood," remembers Kouichi Yotsui, the creator of one of Capcom's most memorable arcade games. "It was only after the door had closed that I realised that it could only be opened from the inside." Completely stranded in the second-biggest city in Japan with no way of contacting anyone – this was long before mobile phones – Yotsui's next move was not only one of sheer desperation, but it would also spark a creative seed for the new game he was working on.

"I was in danger of being frozen to death, but noticed that there were only a few metres between my work building and the one next door. I began to climb down the side of the building in order to reach the emergency stairs, desperately afraid that I would die from the fall. Even then, though, I was thinking about the game and came to the conclusion that anybody that wanted to do that kind of thing must be crazy."

Yotsui safely made it back to terra firma and went on to create one of the Eighties' most spectacular-looking arcade games. What's particularly interesting about *Strider*, however, is that it wasn't the result of just one man's vision, but rather several, as *Strider* became a collaboration between Capcom and Moto Kikaku, a group of famous Japanese manga artists that had been founded by Hiroshi Motomiya.

"At the time I was working for Capcom's first project team when a manga, Famicom and arcade collaboration project came up," recalls Yotsui. I was placed in charge of the arcade version by [Tokuro Fujiwara], who was my manager at the time. When I asked him why he had chosen me, his simple reply was: 'You have really good negotiation skills.' I'm guessing he was expecting a lot of meetings with people outside Capcom."

Although Fujiwara, Takashi Nishiyama and Yoshiki Okamoto were overseeing the project as Capcom's heads of development, it wasn't until newcomer Akio Sakai suggested collaborating with a media outside the world of videogames that Moto Kikaku was actually approached. After initial meetings, the core teams for each project were quickly assembled. Masahiko Kurokawa was placed in charge of the Famicom version, Tatsumi Wada and his manager Hiroshi Motomiya were chosen to front the manga iteration, and Yotsui was placed in charge of the arcade game. What followed was a rigorous meeting that would attempt to iron out the background of this new world.

"I remember Capcom's president Kenzo Tsujimoto booking us into the Shinjuku Hilton Hotel and keeping us in there for a week so we could create the framework for the character, story and world view," laughs Yotsui. "We were occasionally joined by both Sakai-san and Fujiwara-san at several points, and the meetings would get quite intense, but we were able to get the outline of the characters decided within that week. We came up with the name Hiryu and had the setting for his circumstances as well as a core outline for the story."

Although initial ideas were put in place, Yotsui and Kurokawa found themselves constantly travelling between Capcom's Osaka-based office and Moto Kikaku, which was based in Chiba. Lodging with Wada, they would constantly discuss new ideas over dinner. Needless to say, with three strong-willed individuals working on the project, it wasn't always smooth sailing. "Of course, there were differences between our opinions, but as we continued each discussion it simply allowed us to place *Strider*'s world together more effectively."

Another benefit, the trio discovered, was Kurokawa and Yotsui's backgrounds in film. Having both graduated in the film departments of their respective art universities, they were able to write out a suitable scenario for Strider Hiryu's first adventure.

Tatsumi Wada employed a professional manga writer, who brushed up the script and the original design to make it feel more like a manga title, while Kurokawa drew inspiration from both the new manga concept and their



» [Arcade] Level 5's boss rush sees you facing off against virtually every boss and sub-boss from the previous four levels. They're far tougher this time around, though, so be careful.

original ideas. Yotsui, on the other hand, who had already proven his mastery of the CPS-1 hardware with *Ghouls 'N Ghosts*, decided to utilise the raw power of the arcade board to make his version of *Strider* as spectacular as possible. Therefore, three distinct versions of the game emerged from one core idea.

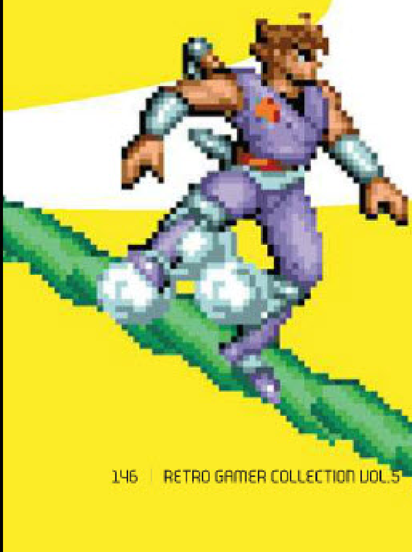
With Moto Kikaku hard at work on the manga, Kurokawa and Yotsui set to work on their own versions of *Strider*. The Famicom version, while lacking the sheer spectacle of the arcade outing, is nevertheless an impressive piece of work that features tight level design, a well-paced story, and nicely animated sprites, although they're obviously not as dynamic or well-animated as the arcade offering. Far more adventure-based than its arcade counterpart and with a story that ties in more closely with the manga, it shares elements with the *Mega Man* series as you gain new abilities after defeating certain bosses. Interestingly, NES *Strider* was only released in North America, despite its close ties with the Moto Kikaku manga. It was also released several months after Yotsui's arcade offering.

But why did Yotsui choose to create a title that stood apart from its two peers? "Well, the manga contains some excellent human drama, and it's in that detail where the enjoyment is," he begins. "I obviously wanted to represent that enjoyment, but considering that arcade games are meant to be one play for one coin, I didn't feel that this approach was very suitable. If I wanted to tell *Strider*'s story literally I knew that it would be hard-pressed to compete with the Famicom version and that it would have an even harder time if compared directly with the manga. However, by describing the action through visual imagery, I felt that the arcade version would be able to turn the table in my favour. While *Strider* was obviously a collaborative project, I felt that we should all heighten the *Strider* world by using the methods that each version excelled at."

Told via stylish cut-scenes that open each of its five levels, the story of arcade *Strider* is actually far more in-depth than what is shown in the finished game. A small European nation called Kafazu is attacked by an unknown army that quickly goes on to dominate the rest of Europe and several other continents in its ruthless quest for world domination. With the fate of the planet uncertain and now resting in the iron grip of Grandmaster Meio, Strider Hiryu is called in to defeat the ruthless dictator and restore balance. What follows is a rollercoaster ride through Kafazu, the icy wastes of Siberia, and the verdant jungles of the Amazon. Hiryu even finds time to take down a huge flying battleship before he finally tracks Grandmaster Meio down to his well-guarded fortress.

Usually consisting of nothing more than a few short frames to deliver the setup for the next level, *Strider*'s cut-scenes stay in the memory due to the multiple languages used in each scene.

"It was mainly because I wanted to give *Strider* a really exotic mood," begins Yotsui. "When I was young there were no networks like we have today and it was only television that was able to show you all these exciting places from



BOSS RUSH

Strider is full of spectacular bosses. Here's the full selection with handy tips



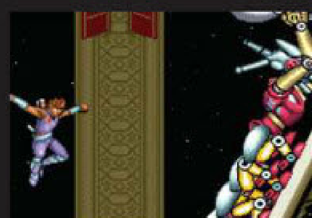
Strobaya

When you first meet this muscle man, he's linked to some sort of life-support system. He soon breaks free, however, and proceeds to attack you by rolling into you and hurling you across the screen. Luckily, despite his fearsome appearance, he swiftly falls to your falchion. Oh, and once you have finally defeated him, remember to stand under the platform on the far left to avoid the falling flames.



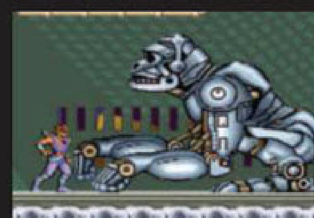
Novo

Before your encounter with Urobolos, you'll be forced to take out this rather nasty sentry drone. Guarding the passageway that you need to drop down into and spitting out lasers, Novo turns out to be an annoyance rather than a threat. It's not too hard to work out the patterns of his attacks, so you should be able to get by him with Strider taking little or no damage.



Urobolos

This metallic millipede resides at the end of *Strider*'s first stage and can be a handful. Made up of numerous commanders who impressively morph into him as Strider arrives at their chamber, he's a rather tricky foe who attacks with a gun and a deadly hammer/sickle combination. In a rather cool move, it's possible to jump on his back and ride him as he crawls his way around the screen.



Mecha Pon

Found midway through the excellent Siberia stage, Mecha Pon is a gigantic metallic gorilla that forces Strider to combat him in tight corners. While his first form is fairly easy to beat, he does have long reach that can easily catch you unawares. Even when you've finally defeated the metallic ape, Strider's troubles aren't over, as it immediately bursts into flames that can cause further damage.



Solo

Solo is another mid-level boss that can be found on Stage 2. The airborne bounty hunter who takes more than a little inspiration from *Star Wars*' Boba Fett likes to keep his distance and pepper you with homing missiles and a deadly laser. The trick here is to jump into him and then attack, as he takes a while to respond. Do this a few times and you'll quickly blow him to pieces.



The Kuniang MA Team

This trio of beautiful ladies can be found at the end of *Strider*'s second stage. Guarding your entry to the huge floating battleship Balrog, they prove to be almost as nimble as Strider and can cause no end of trouble for the novice player. Sliding floor attacks are a great way to cut through their defences, but otherwise it's simply a case of using timing and avoiding their deadly kicks.



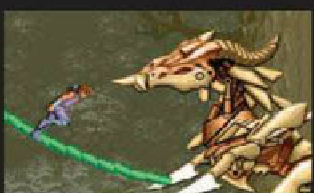
Battleship Balrog Core

Easily the most spectacular moment in the game. Climbing into a huge anti-gravity chamber, your first course of action is to take out the satellites around him. Once you've taken them down, launch into the air and attack as you fly around. You won't do it on your first pass, but energy can be found at the bottom of the chamber.



Captain Beard

The captain of the Balrog is incredibly simple. Immediately after you've defeated the core, you race along the outside, desperately trying to stay ahead of the flames. Once you climb to safety, the pirate is waiting on a flying skiff that will allow you to escape. Luckily he offers virtually no resistance with his whip attack.



Lagoumechanic

This oversized chicken dinosaur dragon thing is a nightmare to defeat, especially in his second form. Try to grab the overhanging branch, as it makes your job a lot easier. You need to avoid the flaming dragons he spits from his mouth and use timing to evade his claws. Annoying, but he can be defeated with practice.



Grandmaster Meio

Unsurprisingly the final boss is the toughest in the game. He zips around the screen and fires out devastating lightning bolts that turn into killer fish or wolves whenever they hit the ground. Make good use of the life power-ups that are available, attack hard and fast, and you'll have a good chance of besting him.

around the world. My impression was that the TV programmes imported from overseas were far more light-hearted and often featured adventures that saw explorers searching uncivilised jungles or going on ocean adventures. I was there thinking: 'Wow! There is a world out there that we cannot communicate within the language we know!' I wanted *Strider* to be able to run around an immense world that was filled with marvels, and I based it on those early TV shows that I would watch."

While *Strider*'s locations were exotic and totally different to its arcade brethren, the many bosses that Hiryu encountered were even more outlandish, continuing the coin-op's distinctive feel. One minute you're watching in awe as a council of Kafazu dignitaries morph into a gigantic sickle-wielding millipede, and the next you're facing off against an enormous metallic gorilla, flying around a huge drone in a gravity-free containment unit, or battling a golden dragon after hitching a ride on the back of a dinosaur. And let's not forget the climactic battle against Grandmaster Meio that had Hiryu leaping desperately around the screen while avoiding the boss's devastating lightning attacks.

Interestingly, despite Meio's close resemblance to *Star Wars*' Emperor Palpatine, Yotsui's actual inspiration came from a completely different source, with the designer combing everything from his childhood memories to works of literature in order to create the bosses that made *Strider* such a memorable experience.

"Grandmaster Meio was actually inspired from an image I saw in JRR Tolkien's *The Lord Of The Rings*," he begins. "I got the idea of Urobolos from an old children's picture book that I used to enjoy, while Mecha Pon was simply



» [Arcade] The Amazon stage has you swinging through trees, fighting off natives and hitching rides on dinosaurs.

my homage to the Toho movie character Mechani-Kong. Lagoumechanic, on the other hand, was a little more convoluted. I saw it as an evolution of the dinosaurs on the Amazon level, but gave it the frame of a fowl. The attack where it reaches out at you with its huge claw represents a chicken scratching around for food. Finally, I based its head on the front of an F-16 fighter."

Another interesting aspect of *Strider*'s inventive mayors is that they're one of the first examples of the boss rush, which would go on to become a staple part of Capcom's newer games, especially titles like *Devil May Cry* and *Viewtiful Joe*. After taking down robotic drones that look suspiciously like *Return Of The Jedi*'s AT-ST walkers, and facing a breathtaking anti-gravity section full of dangerous spikes and a drop into deep space, Hiryu has to contend with virtually every boss in quick succession, before finally using Urobolos to hitch a lift to the waiting Grandmaster Meio.

It's a fantastic, if thoroughly draining, end to an astounding game, but *Strider*'s boss rush didn't originate from any reason other than to get the most out of



» Art design from *Strider*'s Amazon level. Note the design of Lagoumechanic in the background.



» [Arcade] The final stage is full of amazingly tricky sections, including this stressful anti-gravity area.

the CPS-1's limited memory.

"We were obviously working to a tight budget, so I simply ended up reusing the earlier bosses as a way of saving memory," explains Yotsui. "The basic idea is to compound enemies by simply reusing the same sprites; it's a simple educational process when you're making videogames. Of course, I applied this same structure to the bosses, but did make them far tougher in order to challenge the player."

Strider's magnificent bosses were backed up by some truly spectacular sprite and art design that really pushed the relatively new CPS-1 hardware. Debuting on huge 28-inch monitors and constantly assaulting you with its gaudy visuals and dazzling enemy design, it constantly drew crowds whenever anybody was playing it. Indeed, even today, *Strider*'s visuals still manage to inspire, both due to their otherworldly design and the sheer imagination that can be seen in every single screen. This graphical splendour was also important to Yotsui, and he was adamant that his own interpretation of *Strider* would not only stand apart from its peers but also any other arcade games.

"For me, an arcade game's destiny is that it has to represent the drama and story of what's happening on screen as effectively as possible," he continues. "There's often no other escape route for the staff who are working on it, so the best way of making your point is by using visual expression. I always want to capture the dramatic side of things when creating games, and the new CPS board enabled me to do that. I knew that my options were limited and that if I wanted to get the best out of both the game and the system I had to be as thorough as possible. When playing games there really isn't anything else to compare them to, so you would make them fundamentally 'all about the visuals'".

While *Strider*'s visuals still hold their own today, it's every bit down to the athleticism of Hiryu himself as it is to the gob-smackingly beautiful visuals.



IT'S STRIDER, ONLY NOT



Cannon Dancer, known as *Osman* outside Japan, is a superb *Strider* clone that captures the brilliance and flamboyant style of the Capcom coin-op. Graphically stunning in places and often surpassing *Strider* with its inventive level design and wacky bosses, it's normally spoken about in revered terms by anyone who's been lucky enough to discover it. While many are quick to note its similarities to *Strider*, not everyone knows why the titles are so similar.

"Oh, making a spiritual sequel to *Strider* was always intentional," laughs Yotsui, as he's actually responsible for the design on both games. "When I joined Mitchell Corp, the first thing they said to me was: 'Make a game like *Strider*.' I'm very self-assertive and wanted to put as much of my personality into the game as possible. Although it's obviously not a sequel to *Strider* from a story point of view, it is by the same developer, so you can read into that what you like."

Wanting to show off just how nimble his version of Strider could be – Kurokawa's version is like a pensioner in comparison – Yotsui created a digital playground that allowed gamers to really experiment with the character's abilities. Indeed, from the moment he glides in and starts swinging his falchion through hordes of enemies, you're instantly in awe of his athleticism. Huge gantries, cavernous holes, and gigantic cogs – each and every one allows Strider to climb and explore his beautifully created world in a way that was simply mesmerising back in the day. Gracefully cart-wheeling through the air, dispensing enemies with a lethal sliding attack, hanging from the undersides of flying skiffs using just his hands, climbing up sheer surfaces like a monkey… He's an absolute joy to control and stands proudly apart from virtually any other arcade hero we can think of, although this athleticism wasn't without some downfalls. "We used a tremendous amount of data for Hiryu's animation," recalls Yotsui when we asked him how Capcom was able to create such a spectacular-looking hero. "In fact, I'm pretty sure we used the same amount of data on *Strider*'s animation that we would use on two games back then."

Hiryu's agility actually stems from Yotsui's own love of outdoor pursuits, not to mention that aforementioned climb to a neighbouring building. "I love mountain-climbing, so I would say that definitely affected *Strider*'s gameplay and level design," continues Yotsui. "I love the feeling I get when I'm climbing over a high, mysterious peak; that feeling when the air hits you. I'm also a big fan of skiing and diving, which makes me feel like I'm being thrown into the air. Above all, though, I wanted to imagine a world that would feature all those strangely mixed-up elements."



» [Arcade] Strider's slide attack is absolutely devastating and makes short work of his opponents.

Yotsui's love of rock-climbing is most notable in *Strider*'s second stage, which is still one of the greatest levels that you'll ever see in a videogame. Featuring dramatic battles with both huge robotic gorilla Mecha Pon and Solo, a bounty hunter for hire who looks suspiciously like Boba Fett, *Strider*'s greatest moment happens immediately after he dispatches Solo. Standing at the precipice of a mountain, the crazy Hiryu simply runs down it, setting off mines as he does so, before majestically cart-wheeling to safety. It's an unforgettable moment that's made all the better by the excellent audio that accompanies it.

Like its astonishing visuals, *Strider*'s compositions are also over and above what was typical of the time, giving the on-screen events a huge amount of gravitas. The sweeping orchestral arrangements – the Mega Drive and PC Engine versions feature even more stirring tunes – matched Hiryu's on-screen shenanigans magnificently, giving *Strider* a truly epic feel.

"At the beginning I would intrude so much that I would simply confuse Junko Tamiya, *Strider*'s composer," laughs Yotsui as he recalls the creation of the game's epic tunes and how he wanted them to be "just perfect". "I remember making her listen to Igor Stravinsky's *The Rite Of Spring* over and over again and then stated that her work was unreasonable. I would even hum the song to her myself. I admit that my attention to detail was a little crazy. It got to a stage when a notice was put on the sound room's door stating: 'The game designer from the first project team

THE ADVENTURES OF STRIDER

Join us as we take a look at the rest of the Strider franchise – both standalone



Strider

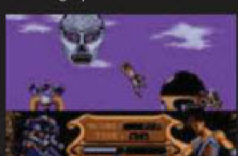
- **Format: NES**
- **Year Released: 1989**

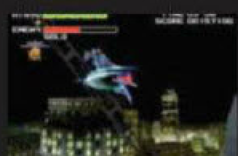
Although Masahiko Kurokawa's take on *Strider* doesn't match the sheer brilliance of Yotsui's arcade-powered vision, it remains a surprisingly strong release that was typical of the high-quality titles that Capcom was producing on Nintendo's 8-bit system at the time.

Strider Returns

- **Format: Various**
- **Year Released: 1990**

After acquiring the licence to convert the original coin-op to home computers and consoles, Tiertex and US Gold released this dismal effort that did nothing but give Capcom's classic a bad name. Level design was dull, bosses lacked imagination, and even the graphics were nothing special.





Strider 2

- **Format: Arcade**
- **Year Released: 2000**

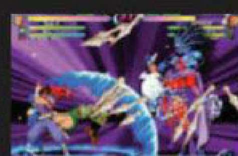
Capcom released a true sequel to *Strider* in 2000, which very nearly eclipsed its original effort. Graphically it's astonishing, making great use of the Sony ZN-2 hardware. Filled with over-the-top bosses and inventive set pieces, it's only really let down by being a little too easy.

Marvel vs Capcom: Clash Of Super Heroes

- **Format: Arcade**
- **Year Released: 1998**

Any game that allows you to pit Strider against the Hulk is always going to be entertaining, but you'll still be impressed with just how much fun *Marvel vs Capcom* actually is. Strider is a playable fighter and has lots of amazing moves.





Marvel vs Capcom 2: New Age Of Heroes

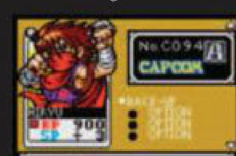
- **Format: Arcade**
- **Year Released: 2000**

Although the concept changed slightly, this was otherwise business as usual, with Capcom producing another slick brawler. Strider Hiryu returns to the fray and is just as deadly as he was in the first game.

SNK vs Capcom: Card Fighter's Clash

- **Format: Neo Geo Pocket**
- **Year Released: 1999**

Strider's appearance in this strategy franchise is limited to a few appearances. Players can unlock cards, which feature characters from both the Capcom and SNK universes. Strider is not only hard to find, but rather strong as well.





» [Mega Drive] It's not as perfect as the Sharp X68000 conversion, but we'd wager that it was far more popular.



» [Arcade] Easily the most spectacular moment in the game. It was sequences like Strider's downhill run that made the game so popular with gamers.

is not allowed to enter!'

"Eventually, though, the composer began to understand exactly what I did and didn't like and she began creating pieces that I have no problems with. Fortunately, she was surrounded by a very talented team in the sound room that helped matters greatly. I was making a lot of demands but it was because I felt that the atmosphere for each scene was so important. I was taking my inspiration from classic ballet or old Walt Disney cartoons, and I wanted *Strider* to have music that could be dramatic, but also had a lot of energy to it. I would just stand there screaming behind all the sound staff while not actually doing anything!"

With Yotsui constantly expecting perfection from his staff, it should come as no surprise to learn that *Strider*'s development wasn't exactly smooth sailing for all involved. Strider's original eight-month development plan was constantly delayed, and the ten-man team was soon joined by members of Capcom's other projects in order to get the game finished. Despite the young age of Yotsui, he was shown an unusually large amount of leniency from Fujiwara, who ensured that *Strider* was only finished when Yotsui said so.

"He was known as a manager who was very strict with his junior staff, but he was surprisingly generous towards me while I was working on *Strider*," recalls Yotsui. Despite the fact that we were working on this collaboration, I was allowed free rein to do whatever I wanted with the arcade iteration, and I was never forced to copy ideas from the other two projects. When making *Strider* I just did what I felt was right, and I felt as one with the game. Even if there had been demand from elsewhere I would have simply overturned it."

Eventually released in 1989 to great critical acclaim, we asked Yotsui why he thought that the game became such a success and why so many gamers still enjoy the franchise that *Strider* eventually spawned. "When *Strider* was first created, all of the staff, including myself, were in their mid-twenties," he begins. "There was a potent mixture of immaturity and far too much confidence that resulted in a truly great game."

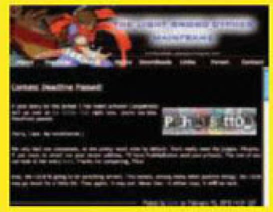
So the big question now that Yotsui is aware of just how many people still love his game – in typical Japanese fashion, he was reluctant to discuss *Strider*'s 2000 sequel – would he perhaps be persuaded to return on a new game?

"Well, I would if Capcom put forth their usual audacity and gave me a call," he laughs. "Having said that, I can't really see how *Strider* would be successful in today's market. With *Strider*, gamers seem to connect with its controls and the magnificent stage development and spectacular sequences. If they're now looking for that type of image in a new game, I could easily see it causing budget bankruptcy. It wouldn't necessarily be a good business idea, and if it was given a limited budget you would have a contradiction in quality that meant it wouldn't really feel like a *Strider* game. Having to decide upon making a game that offers emotional effect or is simply a business success is a very hard question to answer. The original *Strider* was already in the low profit range and, as a product, was never that easy to market."

"I'm just truly touched that there are people out there who still enjoy *Strider* some 20 years after its original release."



» [Arcade] This screenshot from *Street Fighter Alpha 2* isn't a cameo, as it's actually someone dressing up as Hiryu.



LIGHT YEARS AHEAD OF THE COMPETITION

If you're a fan of *Strider* there's only one website worth visiting. The Light Sword Cypher Mainframe contains everything from a friendly forum to lots of useful information about Capcom's greatest arcade game. Owner Sam Roberts is meticulous in chasing up every possible *Strider* news story that pops up on the internet and has also put together plenty of interesting features about both the franchise and creator. If you've never heard of the manga before, don't know the difference between Strider Hiryu and Strider Mariya, or just want to learn more about this spectacular franchise, then this should be your first stop. Visit **www.lscmainframe.net** for more information.

games and his guest appearances



Namco X Capcom

- **Format: PS2**
- **Year Released: 2005**

Monolith Soft decided to apply the concept of the Capcom *Versus* series to the RPG. The end result received mixed reviews and didn't receive an official English translation. This is a shame, as Hiryu has quite a prominent role in the game.

Adventure Quiz: Capcom World 2

- **Format: Arcade**
- **Year Released: 1992**

While we love the idea of an arcade game that tests your Capcom knowledge, *Capcom World 2*'s Japanese text makes it impenetrable. Still, it features a cameo from Hiryu, so *Strider* fans might want to start brushing up on their kanji.

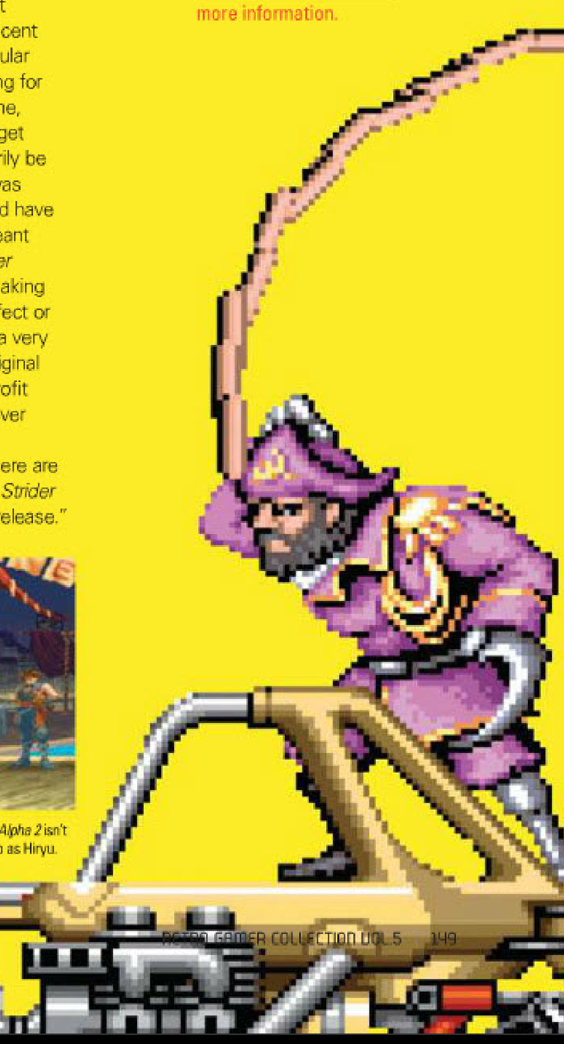




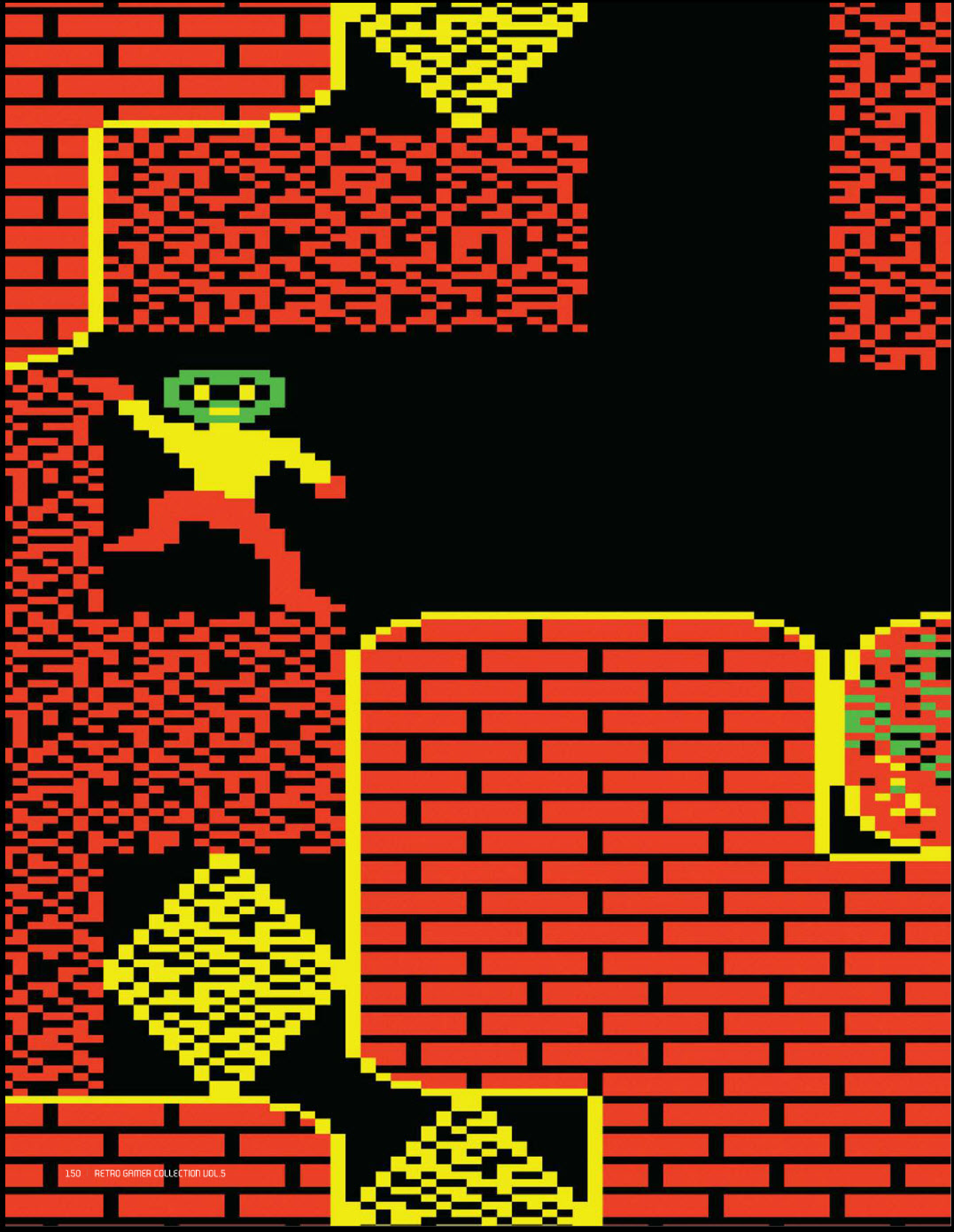
Capcom Fighting All-Stars

- **Format: Arcade**
- **Year Released: N/A**

Capcom Fighting All-Stars was due to be a 3D take on the *Versus* series and originally went into testing in 2002. Hiryu made the cut and his 3D incarnation looks pretty sweet, but disastrous tests meant that the game never made it past the alpha stage.



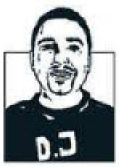
Thanks to Maiko Hinson for her invaluable translation, Kouichi Yotsui for his time and, finally, Sam Roberts for his helpful assistance and making an arduous nine-year quest a reality.



Repton

A CLONE, ONLY NOT

» RETROREVIVAL



» BBC MICRO
» SUPERIOR SOFTWARE
» 1985

On first look, *Repton* appears to be nothing more than a *Boulderdash* clone. Of course first appearances can be deceptive, and once you play Tim Tyler's excellent game, you'll discover it to be a completely different beast to First Software's massively popular game.

Of course, similarities certainly exist – you dig around in an underground maze seeking out crystals while avoiding boulders – but the pace to *Repton* is a world away from the frenzied gameplay of *Boulderdash*. Rushing in *Repton* only leads to disaster, with the titular lizard having far more success if he's slowly guided around the cleverly designed mazes. This is further backed up by the fact you have far more time than you do in *Boulderdash* – First Software's game has an on-screen timer that greatly accelerates your need to finish each stage as quickly as possible – allowing *Repton* to almost casually explore each stage.

Then of course there is *Repton* himself, a delightful lizard who quickly morphed into the Beeb's unofficial mascot. Large of size and nicely animated, he's a great creation who you quickly bond with, such is your desperation to clear each and every cavern that the poor lizard finds himself trapped in.

With its decent presentation, huge sprites, bright primary colours and slick programming, it should come as no surprise to learn that *Repton* was a huge success for both Superior Software and the then 15-year-old Tyler, and it soon went on to spawn numerous sequels, although Tyler only programmed the direct sequel and not any of the later games.

For a 27-year-old lizard, *Repton* has proven extremely versatile and has been able to adapt to a variety of different consoles and computers. He can currently be found on Apple's iPhone, but if you want to view this rare creature in his natural habitat then we suggest you hunt down a BBC Micro and relive his original adventure all over again. You can thank us later. *



In the chair with...

GEOFF CRAMMOND

Only a select few developers have the ability to shift units by merely attaching their name to their titles, and Geoff Crammond is unquestionably a member of this elite club. In this exclusive interview, he speaks to Damien McFerran about the past, present and future

EARMARKED FOR A successful career in electronics, Geoff Crammond approached the concept of creating videogames as an outlet for his creative urges; what was supposed to be a harmless hobby ended up becoming his full-time job. After cutting his teeth on the BBC Micro, Crammond went on to create some of the finest driving simulations the videogame industry has ever seen, as well as crafting The Sentinel – a game that still has the power to enchant more than two decades after its initial release. However, since his last game – 2002's Grand Prix 4 – Crammond has fallen off the radar and out of the public eye. Until now, that is…

RETRO GAMER: It's a predictable first question, but how did you become involved with programming?

GEOFF CRAMMOND: When I left university I worked for Marconi and there I learnt the high-level language Fortran, which I used to do maths modelling optimisation work; that was my first experience of programming. The computer had 32K of RAM and filled a large room. It was replaced with something considerably more powerful during my eight years there.

RG: What led you to work on the BBC Micro?

GC: A couple of years before leaving Marconi I had noticed that home computers were starting to appear and had the idea of doing some sort of 3D flying program just as a hobby. I went to a show at Olympia where the BBC Micro was on display for the first time; I was so impressed that I ordered one there and then. It arrived about six months later, probably one of the first to be dispatched. I quickly got to grips with its inbuilt language, BASIC, which I found was very similar to Fortran, but also rather slow when running. Each line of code was being interpreted into machine code in real-time rather than having been compiled into machine code before running. I realised that I would have to program the computer using a low-level assembler language, which the BBC was able to compile to produce a fast-running program.

RG: *Super Invaders* was your first game. Can you tell us a bit about this title?

GC: I bought a book on the 6502 microprocessor assembly language and then had to decide what to do. I suppose *Super Invaders* just seemed like a good game to develop in order to learn how to write a game. I instantly became addicted to the whole experience; it was like discovering a new world. I remember that visiting cousins had a go at designing some of the aliens and I actually incorporated some of them. I added a caterpillar track effect to the shooting thing at the bottom of the screen and added a tougher mode as well, where the bombs are slightly homing and the aliens' space gets narrower. The game was finished and, amazingly, compared with what was to follow, it only took me three months to complete it.

RG: How did you market the game when it came out?

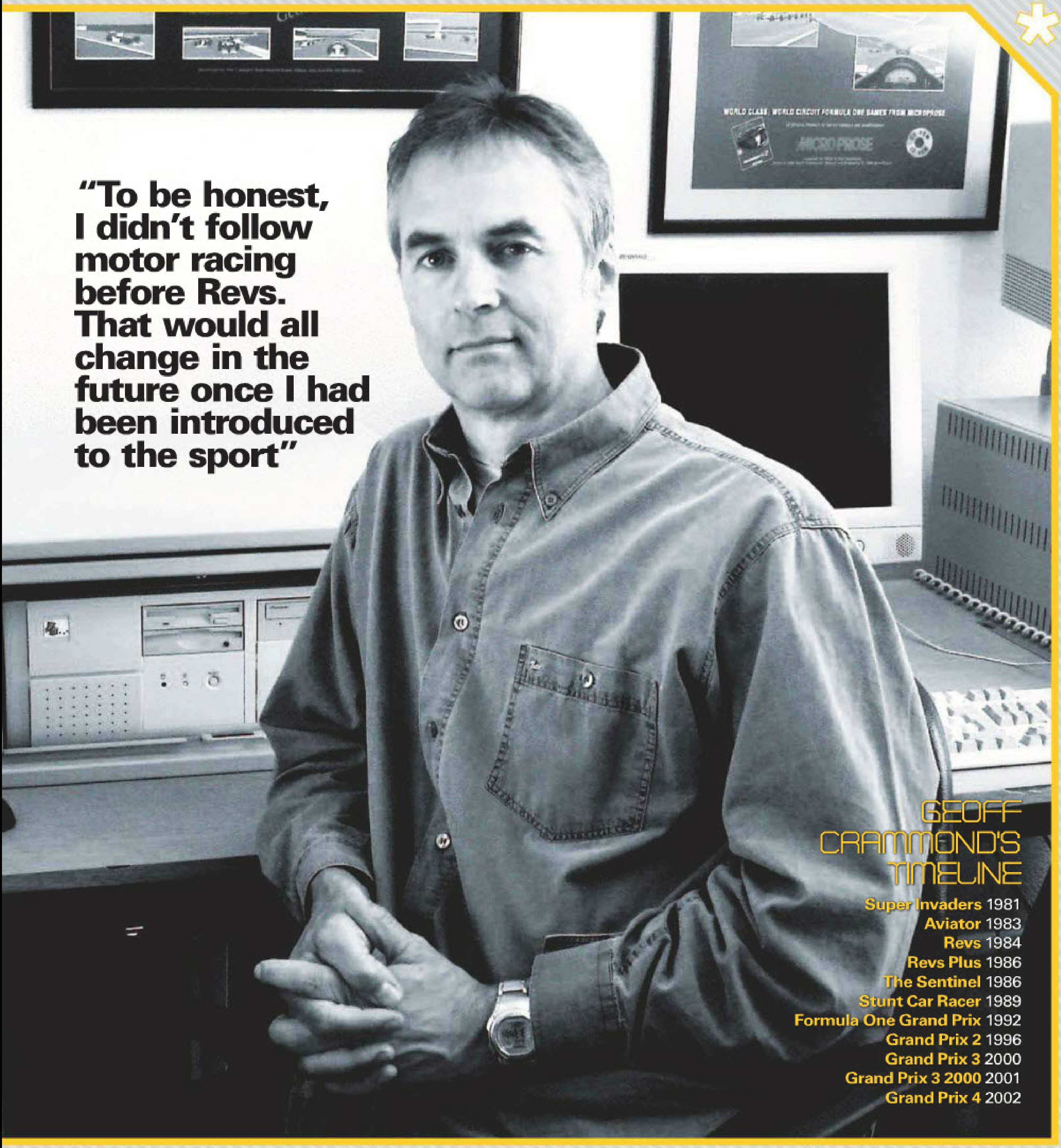
GC: As I worked on it I had the idea of maybe putting an advert in a magazine and sending off cassettes when people ordered it. By the time it was finished someone who saw it suggested approaching Acornsoft to see if they wanted to publish it. I was lucky in that although they had done versions of other popular arcade games, they hadn't done a *Space Invaders*-style title. I took it to Cambridge to show them and they liked it and published it. My foot was in the door.

RG: Can you tell us a little bit about your next game, *Aviator*?

GC: Well, after doing *Super Invaders*, Acornsoft asked what I was going to do next, and I still had my original goal in mind of creating some sort of 3D flying game. I went away and started work, with the key difference this time being that I knew it would be published, which was quite

DOWNLOAD THE PODCAST

For the full lowdown on the Geoff Crammond interview, visit **www.imaginepodcasts.com**



"To be honest, I didn't follow motor racing before Revs. That would all change in the future once I had been introduced to the sport"

GEOFF CRAMMOND'S TIMELINE

Super Invaders 1981
Aviator 1983
Revs 1984
Revs Plus 1986
The Sentinel 1986
Stunt Car Racer 1989
Formula One Grand Prix 1992
Grand Prix 2 1996
Grand Prix 3 2000
Grand Prix 3 2000 2001
Grand Prix 4 2002

awesome, really. I chose a Spitfire simply because that seemed like something that I would like to fly given a choice; I even got hold of a pilot's manual for a Spitfire and other data so I could do the simulation. *Aviator* was fascinating to work on. I hadn't done a flight sim before so it was very interesting developing the simulation. Also, I hadn't done 3D graphics before so that was all new. It was my first 3D world and took me a year to do it. I remember the game's launch was good: we did it at the Hendon Air Museum next to a real Spitfire and we had an actual Spitfire pilot from World War II as a guest.

RG: *Revs* came next and was your first experience of the genre in which you would later find worldwide fame. Were you a fan of racing beforehand?

GC: To be honest, no, I didn't follow motor racing. That would all change in the future once I had been introduced to the sport. *Revs* came about because Acorn Computers were sponsoring a Formula 3 racing driver by the name of David Hunt – the younger brother of the ex-F1 champion James Hunt. After the launch of *Aviator*, Acornsoft asked me if I could do a Formula 3 racing game given that I would have access to David and his team, who were, at that time, Eddie Jordan Racing based at Silverstone. This sounded great, so naturally I agreed.

RG: This, of course, marked a massive turning point in your career…

GC: True. It was then that I decided to leave my full-time job. Using up all my spare time on games while working at Marconi was no longer

* FIVE TO PLAY

THE SENTINEL



[Amiga] Few games have the ability to challenge *The Sentinel*'s overwhelmingly spooky vibe.

ALTHOUGH MANY WOULD argue that the *Formula One Grand Prix* series is Crammond's enduring legacy, this 1986 release remains one of the most mesmerising videogames in existence. Essentially a game in which energy management is of paramount importance, the ultimate objective is to guide your Synthoid robot to the highest point of the map, thus absorbing the power of the malevolent Sentinel, which drains your life-force whenever its gaze falls upon you. As your Synthoid is incapable of movement, you must achieve your aim by accumulating energy from other objects and creating clones, to which you can transfer your consciousness. *The Sentinel* is a timeless game despite the crude nature of the 3D visuals. In 1998 an updated version was released under the title *Sentinel Returns* from developer Hookstone, with Crammond having no direct input.

FORMULA ONE GRAND PRIX



[Atari ST] Even today, *F1GP* retains its tight gameplay and intense realism.

IT'S DIFFICULT TO understate the sheer impact that Crammond's 1992 racer had on the genre as a whole; without it, games like *Gran Turismo* and *Forza Motorsport* would not exist. It was one of the first games to offer a truly accurate representation of driving a Formula 1 car and introduced players to the concept of fine-tuning their vehicle in order to get the best performance. It's a testament to the game's enduring popularity that a small community continues to tinker with the code via the open-source editor Chequered Flag. Although *GP1* has been comfortably eclipsed by later racers – including the three sequels it spawned – it's still devilishly good fun to play, even today.

STUNT CAR RACER



[Amiga] *Stunt Car Racer* is a four-wheeled riot. It's still realistic.

COMPARED TO CRAMMOND'S other racing titles, *Stunt Car Racer* feels refreshingly chaotic. The action takes place on a race track elevated from the ground, and misjudging a corner results in your car booking an appointment with terra firma. As the title suggests, much of the enjoyment to be gained revolves around performing outlandish tricks and jumps, all of which look and feel authentic thanks to the incredibly realistic physics engine. Many fans have described the game as a rollercoaster ride, which is a very apt manner in which to sum up this truly unique racer. It's a shame, then, that the proposed sequel – *Stunt Car Racer Pro* – never saw the light of day.

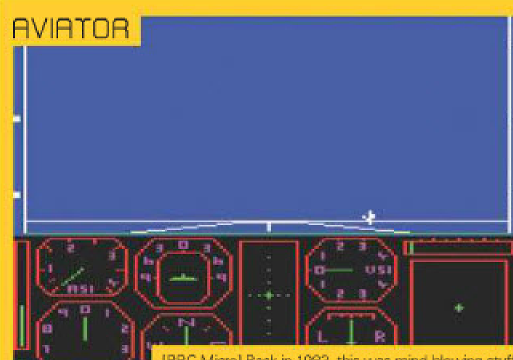
FORMULA ONE GRAND PRIX 4



[PC] *GP4* is kept up to date with fan-produced mods.

THE UNDISPUTED PINNACLE of Crammond's near-legendary *Grand Prix* series, *Grand Prix 4* is deemed by many fans to be the most accurate representation of motorsport ever created, benefiting from Crammond's finely honed physics engine and an astonishingly realistic weather system. Sadly, due to arcane licensing issues, the game was saddled with a LAN multiplayer mode at a time when every other developer was looking to internet-based player-to-player link-ups, but, despite this minor niggle, *GP4* is a tremendous achievement that is unlikely to be bettered until Crammond himself starts work on *GP5*… whenever that may be.

AVIATOR



[BBC Micro] Back in 1983, this was mind-blowing stuff.

CRAMMOND'S SECOND GAME looks positively archaic now, but it's nevertheless an important release in his career and one that is worth checking out even today. The basic wireframe visuals belie an astonishing level of depth and physical realism – for example, the game featured a realistic interpretation of the g-forces that would attack your plane's wings as it dove towards the Earth. Although the game featured combat, with marauding aliens providing ample targets for your Spitfire's bullets, it's often more fun to fly around the map. Indeed, the game actively encourages it, awarding points for spectacular piloting.

tenable for me, them or my wife, so I decided with this commission that I would go full-time into a new career doing computer games. A lot of people thought I was taking a big risk and that the computer games industry might come and go like a fad. Another consideration was that we were expecting an addition to the family within months. For me, though, it was a no-brainer. I had always wanted to have my own business in something, I really liked the work, and I could see incredible opportunities ahead. Besides my technical background, I also have an arty side; I had done some oil painting when I was younger and, just before getting my first home computer, I was experimenting with airbrush painting. Also, I have played guitar since the age of about 13 and used to spend a lot of time multi-tracking and building guitar effects equipment; I even played in a band briefly. So computer games with their graphics and sound and their potential for simulation were an ideal fit for my interests in art, music and physics.

RG: What kind of research did you indulge in when you started creating *Revs*?

GC: Well, one of the first things I did was to go round the Thruxton racing circuit as a passenger in a new BMW driven by David Hunt at a corporate event. That experience made me realise that racing cars on a track was unrecognisable as an activity compared with driving a car on the road. My recollection is one of incredible g-forces and the feeling of being continually in a slide all the way round the circuit – a bit like a theme park ride, actually. I was amazed at the way David was able to feel the balance of the car and he showed me how he could steer with the throttle instead of the steering wheel. When we arrived back in the pit lane I got out of the car and saw that the tyres, which had been new when we started, were now strangely worn such that each chunk of tread had a sideways bevel of 45 degrees due to the way it had distorted while on the limit around a predominately clockwise circuit.

RG: Like *Aviator*, *Revs* was praised for its incredible realism and convincing physics. What was it like moving from a plane to a car? Did this present any challenges from a coding point of view, or was it, in fact, easier to create a realistic game engine based around the physics of a land-based vehicle?

GC: Surprisingly, I found the physics of how a car turns a corner to be trickier – or perhaps less obvious – than the physics of flight. Also, the body of a car and its wheels have a more direct connection with the road than a plane's body in air, and that makes the equations more sensitive to the attitude of the car. Refresh rates have to be higher in order to maintain mathematical stability. One of the things I did was to map the circuit in true 3D co-ordinates, which I hadn't seen done before. Racing games at that time were like *Pole Position* where a bend seemed like a distorted straight rather than something you actually arrived at. I also put red and white striped kerbs at the apexes and exits. The combination of 3D-mapped co-ordinates, apex and exit kerbs, a physics simulation and analogue joysticks meant that, even though the graphics were really crude, the brain was able to perceive the reality present and many an hour could be enjoyed just trying to squeeze another 0.1 seconds off the lap time. David Hunt raced it during development and gave me excellent feedback, so I knew it was performing realistically. Like *Aviator*, *Revs* took about a year, but this time I was working on it full-time.

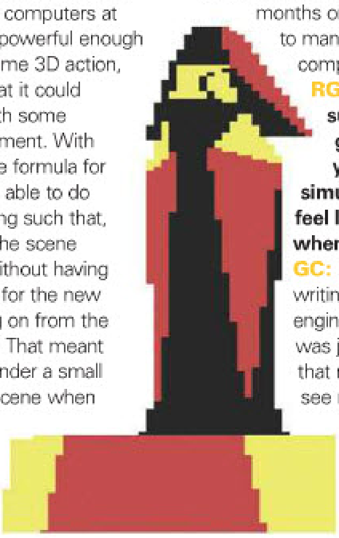


» [PC] *Grand Prix 2* was a world apart from its predecessor, showcasing texture-mapped cars and increased realism.

> "For me, going into the games industry full-time was a no-brainer"

RG: Your next project, *The Sentinel*, was something of a deviation. Can you tell us where the inspiration came from?

GC: Well, the idea for *The Sentinel* came about because it crossed my mind that, although computers at that time were not powerful enough to do detailed real-time 3D action, there was a way that it could be done – albeit with some restriction on movement. With a slight tweak to the formula for 3D projection I was able to do 3D polygon rendering such that, once constructed, the scene could be scrolled without having to re-render except for the new bit that was coming on from the edge of the screen. That meant that I only had to render a small percentage of the scene when panning around. The panning was still done in jerks, but it was real-time enough to work, and I believed that the ability to explore a 3D world would more than compensate for that characteristic. Once I had the landscape system, I then needed to devise a game to play on it. I seem to remember that it took two or three weeks to come up with the initial idea of something on a tower that you had to defeat, but once I had that then the rest fell into place shortly afterwards. The first version took about six months from start to finish. I spent the next six months or so doing conversions to many other home computers of the day.



RG: It's quite a surreal and abstract game compared to your ultra-realistic simulations. Did you feel like a change of pace when you started on it?

GC: All my games involved writing my own graphics engine, so *The Sentinel* was just another project in that respect, but I didn't see myself as necessarily only working on vehicle simulations. I was just inspired by the interactive virtual reality experience of playing the game; I suppose I consider virtual reality to be a simulation anyway.

RG: *Sentinel Returns* updated the concept for the PlayStation generation. Were you involved with the production of this title?

GC: I wasn't that heavily involved, no. I would have been too busy myself with whatever I was working on at the time. My business manager, John Cook, was a big fan of *The Sentinel* and he basically drove the *Sentinel Returns* project. I think I did supply the source code so that they would have such things as landscape generation algorithms and so on, but I expect they created the rest from their overall knowledge of how the game was supposed to play. They certainly had some nice ideas with regard to the look and feel of the 3D.

RG: 1989's *Stunt Car Racer* was your second car-based title, but this time with an emphasis on bouncy physics and exhilarating action. Why did you choose to create a title that was far more manic and action-packed?

GC: I once described how I developed *Stunt Car Racer* in a previous magazine interview and was bemused to read afterwards that someone thought I was re-writing

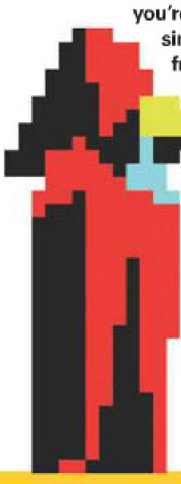
history and that I got the idea after seeing *Hard Drivin'* in the arcades. The truth is that I can honestly say that *Hard Drivin'* had absolutely zero influence on *Stunt Car Racer*, which had taken me three years to create. I only became aware of *Hard Drivin'* a few months before the release of *Stunt Car Racer*. The game actually started out as a sort of land-roving vehicle sim, driving around on a randomly undulating landscape. Early in development I put in physics for the suspension and was driving it around when I noticed that I had the most fun when I encountered a bit of a ramp in the landscape and took off and landed. That started me thinking, so I flattened the landscape apart from an 'up' ramp and 'down' ramp in the middle of a big field. I immediately got a great sensation when I jumped the ramp, so I added a couple more. The next thing I realised was that it was too difficult to find the ramps in the big field they were in and so I needed a track to follow to easily get from one obstacle to another. I didn't want it to be a road-racing game with cornering as the main challenge, so I chose to make the corners banked so they could be driven without having to consider taking a best racing line. I was about a year into development by now and was coding the game on the Commodore 64. I had the basic system and did a lot of experimenting with different circuits and types of track gradient. I also thought the C64 was not powerful enough to have another car on the track, and so the idea was to just do timed laps around various obstacle courses. Fortunately, I later decided that the game needed the racing mode, so I put in a single opponent. The damage system seemed like a natural counter to just keeping the foot to the floor and the boost system also added to the gameplay.

RG: What about the 16-bit versions of the game?

GC: When it came to doing the Atari ST and Amiga versions I went for polygon plotting instead of the solid fill technique on the C64. While I was working on them I noted that both machines had an RS-232 serial port. I had already done some RS-232 stuff on the BBC Micro years before – to output some *Aviator* data in real-time – and thought it would be cool to be able to link machines by connecting these ports and having a head-to-head race with a friend. That turned out to be a popular addition and I think it was quite a novelty that an Atari ST could be connected to a Commodore Amiga.

RG: What has happened to *Stunt Car Racer Pro*, which you were working on at one point with Lost Toys Studios?

GC: *Stunt Car Racer Pro* was designed fundamentally as a multiplayer game and, of course, we wouldn't have had any restrictions with online play like we did with the F1 licence in the *Grand Prix* series. It's a real shame it never happened. It was a self-financed project that simply hit a patch where publishers just weren't signing on the dotted line. We got it to a working demo stage, but as it was self-financed, we had a limited timeline before it became impractical to continue with the team. My business manager calls it the best game he never sold.



RG: *Formula One Grand Prix* is arguably the series for which you're most famous. Was it simply a natural progression from the Formula 3 action seen in *Revs*?

GC: Not long after finishing *Stunt Car Racer*, my publisher, which was MicroProse at the time, rang me up one day and said that they were in talks with McLaren about a possible licence deal and would I be interested in doing an F1 game. McLaren were, at that time, a top team with the likes of Ayrton Senna and Alain Prost driving for them. I had followed F1 avidly since doing *Revs* and it was at a time when Nigel Mansell was on the scene – I always thought he was a particularly entertaining driver. I had always expected to do an F1 game one day and with the power of machines like the Atari ST and Amiga, plus the possible licence deal, this was just the right moment for me to do it. I started with a blank sheet and just tried to make things as realistic as I could. Putting in apex and overrun kerbs that were raised off the ground seemed like a big feature back then. I had a track – Silverstone – done and an F1 car as well by the time I went to my first meeting with McLaren. That was really interesting talking to them. As it turned out, the licence deal was never done, but the project was far enough advanced for me just to carry on and finish it.

> “Putting in kerbs that were raised off the ground seemed like a big feature back then”

RG: What were your ultimate objectives when you were creating *GP1*?

GC: For me, the simulator had to be realistic but also drivable. I didn't want a game where simply getting round the next bend was a big achievement – that just wouldn't feel right. It was essential for *GP1* that there was some steering help that was effective since even the joysticks for the Atari ST and Amiga were switched joysticks – in other words, 'all or nothing'. I knew from *Revs* that keyboard operation was inferior to the BBC Micro's analogue joysticks and yet that was all there was to work with. I really took the point of view that negotiating a corner should demand the same sort of dexterity and thought process as it does in real life, and that



[PC] *Grand Prix 4* still looks gorgeous today.

*NUMBER CRUNCHING

1981 was the year Crammond released his first game, *Super Invaders*. It made the equivalent of about two-thirds of his annual salary at the time

Magazine *PC Zone* awarded *Grand Prix 2* a whopping **95%**

Despite his fame, Crammond has only produced **11** games in almost three decades

Revs originally shipped with just one track – Silverstone – but an expansion was later released that granted an additional **4** circuits

26 drivers from the 1994 season were included in *Grand Prix 2*, although Ayrton Senna and Roland Ratzenberger were omitted as a token of respect – both drivers perished during that year's campaign

It took around **3** seconds for each of the scenes to render in the C64 version of *The Sentinel*



>> Crammond talks us through the development of the *Grand Prix* series.

is how I decided on how steering help would work.

RG: With *Grand Prix 3* you introduced features such as variable weather effects that could change during a race – was this difficult to program?

GC: The wet weather feature was huge. That is why I left it out of *GP2*; I simply didn't have time to do it justice. *GP3* was my opportunity. The weather system was fully simulated, right down to rain-bearing clouds that come in from a distance. The wet track had variable water depth and therefore changes in grip and the whole thing could dry and have a drying line. It was also possible for one part of the circuit to be wet while the rest was dry, and so on.

RG: Although *GP3* received glowing scores, it is seen by many fans as the weakest in the series. Why do you think this is the case?

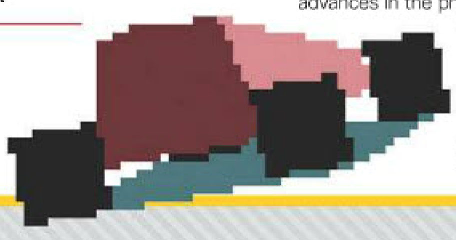
GC: If that is the case then perhaps people's perceptions are affected by graphics quality. Clearly the graphics quality of *GP2* was a big step up from *GP1*, and *GP4* is a big step up from *GP3*, but that's just the way that the graphics progressed. The reality from where I sit is that if I look at the advances in the physics of *GP4* compared with *GP2* then most of the big developments actually went into *GP3*. *GP3* had the all-new wet weather system, as I said, which was huge, but it was also the version where I completely overhauled the modelling of the transmission system and tyres and incorporated an active differential. You could do 'doughnuts' for the first time. Also, the cars were able to tumble upside down for the first time. That kind of enhancement was not trivial. *GP3 2000* also saw further additions, including being able to collide with debris, for example. The other thing to bear in mind is that sim enthusiasts can understandably sometimes get the wrong idea about something. I have seen forums where people can collectively arrive at all sorts of misconceptions about how the sim works, saying things like the simulator puts the car on rails when you use steering help or when you do a 'doughnut' the manoeuvre is 'canned', by which they mean a pre-programmed sequence of positions. The truth is that all the steering help does is feed a value to the steering wheel position in the simulator, absolutely nothing else, and 'doughnuts' are properly simulated, interactive and unique and never 'canned'. My experience has been that people have their loyalties regarding different sims and once they have decided something, there is little likelihood that they can be persuaded otherwise, particularly if they have already expressed an opinion online. If I tried to monitor all the forums trying to correct misconceptions I wouldn't have time for anything else.

RG: Around the time of *GP3*'s release, Sony had stepped up the production of its own *Formula One* franchise on the PlayStation. Although this series was markedly inferior to *Grand Prix* in terms of realism, did it influence your work on your own games?

GC: I mainly remember being impressed by the power of the PlayStation and its ability to do fast texturing. I thought leaving skid marks was a good idea.

RG: How many people worked on the development of *GP4*?

GC: There was a team of about 30 at MicroProse who worked on *GP4*. Basically I worked on the physics and AI and I took the raw GPS data and converted it into a 'physics track' mesh,



which comprised everything inside, including the fences. MicroProse took that from me and created a graphics track that incorporated the mesh of the physics track. MicroProse did the rest of the game, including all the graphics, sound and menus. Obviously I had to provide interfaces so that the sim could drive things like the sound, pit crew actions, the weather, car setups, race results, data logging and so on.

RG: Is it true that *GP4* was planned for conversion to the Xbox console? Why was it cancelled?

GC: Yes, the Xbox version of *GP4* was even demonstrated to the press during a promotion day. I thought it looked very good and worked well. It was a casualty of the MicroProse studio closure, which was announced two weeks after *GP4* was released on the PC. A couple of months work was needed to finish the Xbox version, so sadly it couldn't be done.

RG: Fans continue to support *GP4* with their own mods. Have you ever been consulted on them?

GC: I have never got involved with the mods. I think that because those activities are unofficial, there was never any question of me being involved for contractual reasons. However, with the closure of the studio, the support for the product, which I had expected to come from the MicroProse team and myself, has, at least in part, been replaced with the unofficial support, so in that respect it actually pleases me.

RG: Your background is actually in physics. Bearing this in mind, do you think it's possible that you approach games from a slightly different perspective than other programmers; that you look first at the potential for realism and then build the game up around that?

GC: I don't know how other programmers approach things, but I like to develop a game 'hands-on' rather than on paper. That's how I find out if something is enjoyable or not.

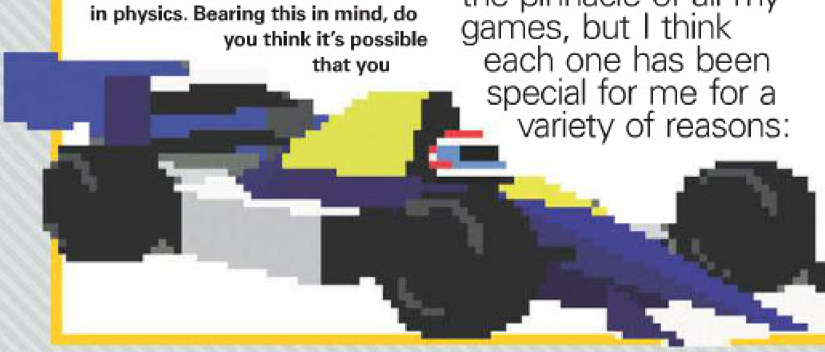
RG: Over the years, the size of development teams has skyrocketed as games have become ever more complex, yet back when you started programming, single-man teams were the norm. Has this shift in the industry resulted in better games do you think, or is there an argument for having smaller dev teams, which might possibly result in a more cohesive end product?

GC: There seem to be opportunities now at both ends of the spectrum. As well as the games that require big teams, an individual now can self-publish an iPhone application, for example. I have always been a fan of the small-team ethic because it is easy to control the project, the ideas and the software. But some games just require too many man-hours to do that way. After my *Stunt Car Racer Pro* experience I know that the best thing about a small team is that they can develop cheaply.

> "I have always been a fan of small teams because it is easy to control the project"

RG: Out of all the games that you've created, which one do you hold the most dear?

GC: Obviously the *Grand Prix* series of games is, for me, the pinnacle of all my games, but I think each one has been special for me for a variety of reasons: *Super Invaders* as my first game; *Aviator* as my first simulator; *Revs* as my first racing game; *The Sentinel* for its originality; and *Stunt Car Racer* for the game concept and linked play mode.



RG: Could you tell us one particularly amusing moment from your career?

GC: I was on a golf holiday in Spain with some guys who were unconnected with the games industry. We were driving in the rain and as we entered a tunnel I exclaimed loudly, with a note of surprise, "It's not raining in the tunnel!" I then had to explain that I was developing the wet weather simulation for my latest game and hadn't considered that the tunnel at Monaco would need code to stop it raining inside. They thought this was very amusing for some reason and often repeat the tale at various social events.

RG: *Amiga Power* had a running joke where you were referred to as 'Sir Geoff' within the pages of the magazine. Did you see it as a term of endearment?

GC: Yes, very much so. I actually found it a source of encouragement.

RG: Has there been any one game that has been an influence on you during your programming career?

GC: I recall when I saw Papyrus's *Indy Car Racing* with texturing for the first time I knew I would at least have to achieve a similar standard with the *GP2* graphics.

RG: Your old friend Jon Ritman recently commented that your attention to detail is astonishing and that you'd spent time incorporating features that might not necessarily get noticed by the gamer. Do you think you're somewhat obsessive in this respect, or do you feel that all of these layers of detail only add to the overall experience of realism?

GC: Look, the closest I have come to driving a real F1 car is sitting in one. The best way for me to ensure that the simulator provides a realistic simulation of the real thing is to include as much real data and as much physics as is practically possible. The best corroboration of the simulator came when I managed to get hold of some real F1 data-logging charts. Other than that, lap times were the best way of evaluating the performance of all the teams. I saw a really good thing on YouTube where some guy had filmed a *GP4* lap and also had real in-car footage of the same lap and played them simultaneously on the left and right of the screen. Visually it seemed almost identical, helped, of course, by the fact that the tracks were done using GPS data, but what was amazing was how the apexes and kerbs of each corner kept appearing in unison. I thought that was a very convincing demonstration of the simulator. I have had feedback from real drivers and it's all been positive.

RG: You've been absent from the world of videogames for a while now. Do you have any projects under development that you can tell us about?

GC: When *GP4* was over and the studio closed I started a new phase called 'having a normal life' and no longer worked seven days a week including evenings. That enabled me to do things called 'hobbies' and pursue 'interests'. However, over the seven years of this phase I have also been doing various recreational programming projects, some of which have involved research into game physics. Oh, and now I program exclusively in C++, which I really like. I'm playing around with ideas that may or may not lead to something.

RG: If resources and time weren't an issue, what kind of game do you think you would want to create? In other words, what would be your dream project?

GC: Actually, *Grand Prix 5* still feels like unfinished business, but then again something completely different could be more interesting.

RG: Are you still an avid follower of Formula One?

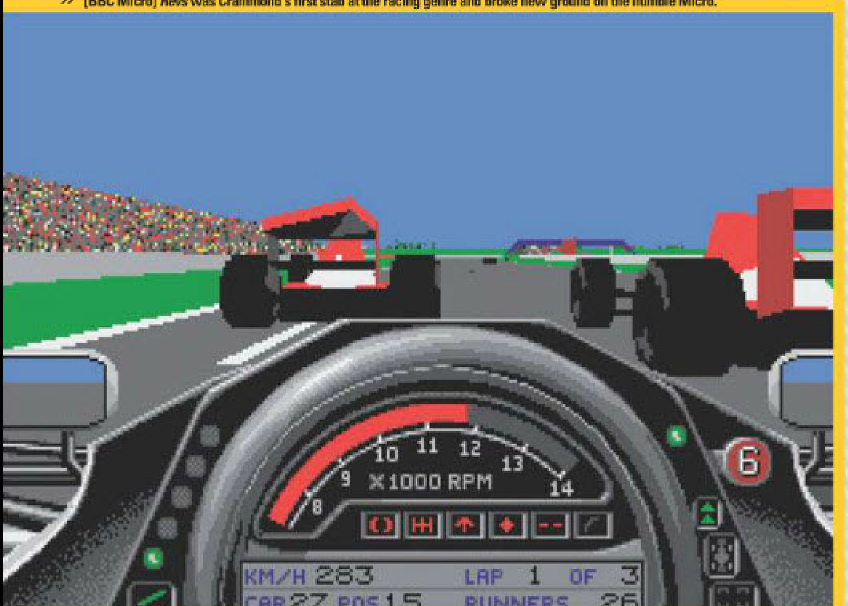
GC: After *GP4*, for a few years I would just watch the occasional race. I really became interested again with the arrival of Lewis Hamilton and was glad he managed to clinch the championship last year after just missing out the year before. It must have been tough for Jenson Button seeing this new kid on the block in a competitive car and doing so well, but he hung in there. Who could have predicted such a turnaround? This season has been amazing so far and I'd just like to say well done to Jenson and the Brawn team.



» [Amiga] *Stunt Car Racer* brings a whole new meaning to 'crashing the game'.



» [BBC Micro] *Revs* was Crammond's first stab at the racing genre and broke new ground on the humble Micro.



YOU ASK THE QUESTIONS

We were inundated with questions for Geoff and he kindly visited our forum to answer those we didn't have time to ask. Check online if yours isn't here

Are you any good at driving a real racing car?
I have tried various 'experience' days at racing circuits, driving such things as a Peugeot saloon car, a Ferrari 355, a Porsche Cayman and a single-seater Formula Ford. When it comes to evaluating my skills, I will refer to my Peugeot saloon car experience at Silverstone that I did with an instructor in the car. When I was actually doing it, I found that because of my familiarity with driving the Silverstone circuit on the computer, I approached the whole thing very much like playing a computer game – that is to say I was slightly removed from reality. The subsequent instructor's report contained phrases such as 'speed merchant', which sort of sounds okay, but it also contained words like 'bull' and 'china shop'. The very next day I did my 'single-seater experience day', which surprisingly began with another Peugeot saloon car session. The instructors were different and didn't know I had already done it the previous day. I thought I would impress and so didn't tell this to my instructor; unfortunately this caused considerable panic as we approached the first bend at Copse, which is a high-speed corner. I was shouted at and threatened with an immediate return to the pits. So I guess I didn't impress!

Is there any game you've seen and thought, 'I wish I'd programmed that'?
Tetris.

Have you ever thought, 'I'm bored with driving games, so for my next game I would really like to make...'? Is that what happened with *The Sentinel*?
When I did *The Sentinel*, I had only done one driving game, *Revs*, so I didn't feel that I was connected to any particular genre. Later, when doing the *Grand Prix* series, I did have some other ideas, which I was too busy to develop and other people came out with. The *GP* project was huge and had a lot of momentum, with people in place, licence in place, publisher on board, and I wasn't about to walk away from it to develop other ideas.

Are you aware if any F1 drivers played *Grand Prix* back in the day?
I am aware that there were a few drivers who used *Grand Prix* to learn tracks. I still have a copy of a newspaper article that described how Mika Salo introduced *GP2* to Jacques Villeneuve during his first year in F1. These are some of my favourite quotes from the interview with Jacques after qualifying at Spa: "I've been using it for the last three Grands Prix"; "The circuits are so realistic, amazingly close to what they are really like, and so are the cars"; "I've been using it since Hockenheim, and within ten laps I felt at home. The same in Hungary". The reason this all made the news was that he got pole position at Spa.



Who's your favourite Doctor Who?
I find them all slightly irritating, to be honest. That's not to say I haven't watched it a lot.

Did you work on any games that never saw the light of day?
Yes. I got into a habit of starting a project, working on it for three months, and then having a more compelling idea that I would do instead. With bills to pay and a low boredom threshold, I didn't like to stew for more than two or three weeks just trying to think of my next game idea, so I would get started on something with potential and then invariably be struck by a better idea at a random moment away from my computer.

import only

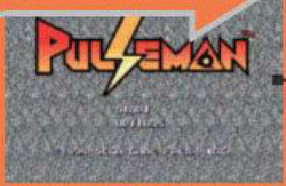
» CO-ORDINATES: 35°41'N 139°46'E

GAME ORIGIN



- » **COUNTRY:** JAPAN
- » **POPULATION:** 127,433,494
- » **CAPITAL:** TOKYO
- » **NATIONAL LANGUAGE:** JAPANESE
- » **CURRENCY:** YEN
- » **TIME ZONE:** GMT +9

INFO



- » **PUBLISHER:** SEGA
- » **DEVELOPER:** GAME FREAK
- » **FEATURED HARDWARE:** MEGA DRIVE
- » **ALSO ON:** VIRTUAL CONSOLE
- » **GENRE:** PLATFORM
- » **RELEASED:** 1994
- » **EXPECT TO PAY:** £20-40

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SONIC 2
GET IT FOR: **£3+**
The best platformer on the Mega Drive and you can pick it up for pennies. Sonic's second 16-bit outing was a defining moment for the Blue Blur, adding a popular sidekick, a neat dash move and Super Sonic to the canon.

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MEGA MAN: THE WILY WARS
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This compendium of the first three NES *Mega Man* titles, which boasts spruced up 16-bit visuals and a brand new *Mega Man* game, fetches ridiculous sums of money these days.

PULSEMAN

» From the fertile minds that brought us Pokémon came Pulseman: not only one of the best Mega Drive titles to never leave Japan, but also one of the most electrifying platform heroes to appear on the console. That's the only electricity pun in this entire feature, honest

It's likely that you've never heard of *Pulseman*. The game was released relatively late in the Mega Drive's life, and was only released officially in Japan despite the 16-bit era marking a bit of a renaissance period for the platform genre. It's a shame, too, as this lavish-looking offering by Game Freak – the team that would go on to create *Pokémon* – and, most notably, *Pokémon* designer Ken Sugimori, was one of the better platform games to come out of that epoch, in our opinion, and is widely regarded as a masterpiece in game design.

A mixture of *Sonic* and *Mega Man*, but with a strong pang of *Rocket Knight Adventures*, *Pulseman* was a glorious-looking platform game that may have felt like a mixture of other platform games you've played before, but it brought these pilfered ingredients to the boil with an impressive amount of care and attention, making it a bit of an undiscovered classic for the Mega Drive.

In the game you play as a Pulseman: a half-robot half-human boy who is the result of his scientist dad creating artificial life and then copping off with one of his creations. It's a weird back story, and one that, for legal reasons, we have to leave right there, but from this odd union of man and machine, Earth gets itself a new platform game hero who can harness electricity – a power that Game Freak would later give to Pikachu – and travel freely between the electronic and real world. However, when prolonged exposure to the digital world changes Pulesman's dad into a crazed scientist, and he embarks on a bit of global cyber-terrorism, it falls to Pulseman to put an end to the evildoer's... uh... evildoing.



» [Mega Drive] This level shows off some of the subtle techniques that Game Freak uses to make levels feel more impressive.

Split across six sizeable stages, glued together by a variety of bonus levels, plus a final one to draw things to a close, *Pulseman* certainly holds a lot of longevity. And the fact that you're given a bit of freedom in what way you can attack the game means that even if you're



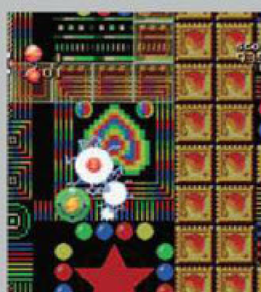
» [Mega Drive] As well as being wonderfully animated, Pulseman has a dizzying array of moves.



» [Mega Drive] *Pulseman* clearly borrows elements from other games, most notably *Mega Man*.



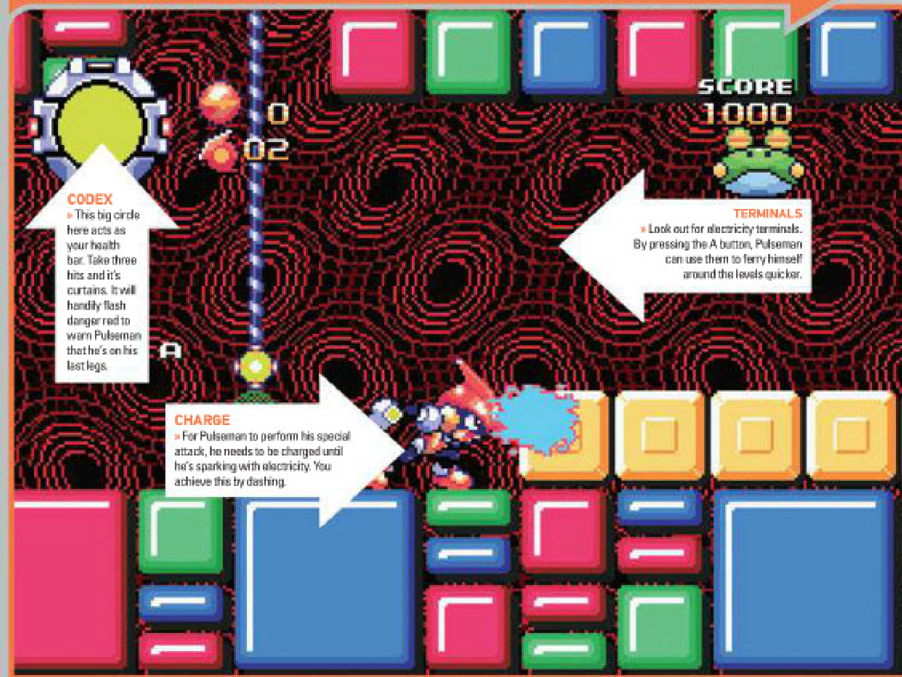
» [Mega Drive] Pulseman was the creation of *Pokémon* designer Ken Sugimori.



» [Mega Drive] The levels are the stars of *Pulseman*, with each feeling unique.

GO DEEPER

What to look for when playing Pulseman



> **"Many who have actually played the game cite it as one of the best-looking Mega Drive games to ever find a release"**
>
> WE SORTA KINDA AGREE WITH THAT PROCLAMATION

rubbish at it, you can still get to see a lot of the good stuff that *Pulseman* has to offer – another *Mega Man* parallel.

The levels in *Pulseman* are large and well-detailed, but oddly sparse and usually only containing a handful of enemies to circumvent. The challenge tends to come from helping Pulseman negotiate his way around the game's brilliantly designed worlds using his various powers. And this is another great element of the game. Pulseman boasts an impressive arsenal of moves, which includes a neat jump kick that destroys those annoying enemies lurking on overhead ledges – why can't all platform game heroes have a handy move like this? There's also a close-range electric slash attack, and a dash move that generates enough friction to allow him to morph into a concentrated ball of electricity and pinball around the screen a bit like Sparkster.

Also featuring sublime music courtesy of *Pokémon* composer Junichi Masuda, it's clear that a great deal of effort went into the game. In fact, many who have played *Pulseman* cite it as one of the best-looking Mega Drive games to find a release, and while we agree that the game certainly is a looker, if we had one criticism, it's that many of the enemy designs do feel a little bland and uninspired: a metal mouse, something that looks like a piece of moving metal grass, and a giant metal balloon of a cat's face firing oranges are just a few examples of the throwaway adversaries that Pulseman has to face in the game. But as we've said, the levels are the true stars of the show, as all have some quirky element that makes them both a joy to discover and a pleasure to negotiate.



Sadly *Pulseman* never found an official release outside Japan – it was available for a period on Sega's on-demand Genesis games service Sega Channel in the US, however – and, owing to its scarcity, copies usually fetch in the region of £20-40 on eBay. If you own a Wii, though, you can now pick up a regionalised version of the game on Virtual Console for 900 Points (around £6).



CAN'T IMPORT? YOU COULD TRY



ROCKET KNIGHT ADVENTURES

» Developed by Nobuya Nakazato of Konami, the man behind some of the best games in the *Contra* series, *Rocket Knight Adventures* was a neat mix of cutesy platformer and run-and-gunner interspersed with neat side-scrolling shooter sections.



FROM THE ARCHIVES

RETRO GAMER DIGS UP THE FILES OF THE CLASSIC COMPANIES OF OLD

Hewson Consultants

Richard Hewison rediscovers the surprisingly prolific publisher Hewson Consultants, which had a huge and underestimated influence on 8-bit gaming in the UK during the Eighties

Hewson Consultants was born in Blewbury, Oxfordshire, at the very start of the UK home microcomputer boom, although founder and managing director Andrew Hewson had first-hand computer experience long before then, as he recalls.

"My first real contact with computers was in the radiocarbon lab at the British Museum research laboratory. I joined in December 1972 and the lab acquired a Hewlett-Packard 2100. I was given the job of converting an ALGOL batch program into Fortran 4 on the new machine."

Having qualified as a statistician, Andrew left the British Museum and moved to Oxfordshire in 1979 to work for the Natural Environment Research Council (NERC). It was in the autumn of the following year that Sinclair first advertised the £99 ZX80 computer kit.

"I wanted to buy one but by this time I had a family and a mortgage, so I decided that I was going to earn enough from the ZX80 to pay for the machine and the bits that it required," says Andrew. His academic background had given him valuable experience of writing, but he had also suffered from writer's block. To prove that he was over it, he decided to write a book about what he had discovered using his newly acquired ZX80 computer.

"The machine came with an instruction manual that covered the 8K ROM, and it wasn't long before I was manipulating the system variables and observing the effects," remembers Andrew. He bought a second-hand typewriter and his wife Janet typed up what he had written down. She drew a picture of the ZX80 for the cover and Andrew used Letraset to add the title *Hints And Tips For The ZX80 By Andrew Hewson* on the front. One hundred books were printed and Andrew paid for two small adverts in *Practical Computing* and *Personal Computer World*.

"The ads worked," says Andrew with some satisfaction. "Letters started arriving enclosing cheques for £3.95. It's impossible to describe how weird it felt to pick envelopes off the mat and find cheques and cash from people you didn't know!"

Despite the home-made quality, the book made a profit and was even reprinted. Coupled with some written academic consultancy work on the side, Hewson Consultants was up and running.

No game plan

Andrew followed up his debut computer book with another called *Hints And Tips For The ZX81*. This time he was more confident of the demand and he found writing about the new machine much easier.

"The ZX81 book more or less wrote itself and I spent a bit more time and effort on the layout, printing and production," he explains. "Nobody could call it a work of art but it sold well enough by mail order and kept the cheques flowing in."

By then, running Hewson Consultants and working for NERC had become a handful, so family members were drafted, starting with Andrew's brother.

"We received programs for evaluation on a daily basis, so I asked my younger brother

INSTANT EXPERT

In late 1985, a new 'Hewson' logo was introduced to all packaging, which dropped the word 'Consultants'. The company name was still Hewson Consultants, but the shorter name allowed for a more stylised and dynamic logo, which changed twice more over the next five years.

In 1987, Andrew was persuaded to enter the 8-bit budget market, signing a deal with Mastertronic. It published old back catalogue titles from Hewson and Gargoyle Games on the 'Rebound' label, alongside new games on the 'Rack 'It' label, including enhanced versions of previous Graftgold hits *Uridium*, *Paradroid* and *Gribbly's Day Out*. Although not a complete disaster, neither label made much business for Hewson or Mastertronic, and after a few years they were laid to rest.

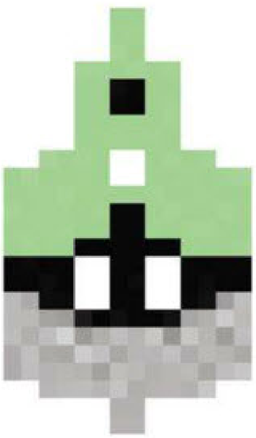
Hewson published a number of compilations in the last few years covering most of its bestselling titles. Titles like *Uridium*, *Rana Rama*, *Cybernoid* and *Cybernoid II* in particular cropped up more than once as Hewson tried to squeeze every last penny out of its 8-bit games portfolio.

Gordon Hewson quit working for Hewson Consultants in 1987, and programmer John M Phillips stepped in to help evaluate all the games that were still being submitted by eager programmers.



“Nobody could call it a work of art, but it sold well enough by mail order”

ANDREW HEWSON COMMENTS ON THE SUCCESS OF HIS ZX81 BOOK



Gordon to work for the company, and he proved a dab hand at sifting out the very best. He had an eye for interesting, quality product and I had the technical background, so we made a good team.”

Hewson Consultants' early product range consisted of Andrew's books, some ZX81 utilities and some ZX81 memory expansion peripherals. The only game was *16K Space Intruders*, which was a *Space Invaders* clone, but was it the first official Hewson Consultants game?

“No. The first game was *Lunar Lander*,” reveals Andrew with a flourish. “I got the idea from an electronic calculator. I wrote it in BASIC and published it at the back of my *Hints And Tips For The ZX80* book. I even sold a few copies on cassette.”

Andrew admits that games weren't originally part of the long-term business plan: “I've never been much of a computer gamer. I've always been much more interested in the technology itself. The truth is that without Gordon we wouldn't have put the effort into signing game authors. I'd have been just as happy writing more books.”

Despite this, games began to become more important to the business. In 1982 more ZX81 games were published including *Naval Blockade* and *Puckman*, written by John Hardman. John went on to co-author a book with Andrew called *40 Best Machine Code Routines For The ZX Spectrum*, which won 'Best Computer Book 1984' at the Computer Trade Association Awards. He also wrote some Spectrum games, including *Spectral Panic* and *Maze Chase*.

Andrew was originally running Hewson Consultants from his spare bedroom, but found it hard to switch off and would often work through until 4am and then go to work at NERC a few hours later. In mid-1982 he rented a one-room office above the printers in Wallingford where his books had been produced. By the summer, the ZX81 range had expanded again to include a flight simulator submitted by keen amateur programmer Mike Male.

“I first got in touch with Andrew because I had read his book about programming the Z80 chip using assembly language,” explains Mike. “I started by writing a very simple flight simulator for the expanded 16K ZX81 called *Pilot*. At the time I was working at Heathrow Airport as an air traffic controller, so writing a flight simulator seemed an obvious step.”

Pilot was duly published and was the start of a busy and fruitful working relationship between Mike and Andrew, resulting in the games *Night Flight*, *Night Flight II*, *Backgammon*, *Heathrow ATC*, and the steam engine simulators *Southern Belle* and *Evening Star*. Mike's games sold over 100,000 copies, so Andrew gave him a golden cassette to commemorate the achievement, with the story and a photograph sent to all of the major computer magazines.

“I remember we got a write-up in one magazine accusing us of being 'brazen back slappers of the week'!” says Mike with a laugh. “But there is no such thing as bad publicity.”

Hewson Consultants' entry into ZX Spectrum publishing came soon after the 16K model was launched. Andrew wrote a *20 Best Programs For The ZX Spectrum* book, and new Spectrum games included Kim Topley's illustrated text adventure called *Quest*, which he followed up with another called *Fantasia Diamond*, which went on to win 'Best Game Scenario' in the prestigious French Grand Prix Internationale du Logiciel d'Adventure awards.

Teenager Simon Cobb wrote *Grid Patrol*, which was published under the name *Di-Lithium Lift*; John Fitzgerald wrote the educational title *Countries Of The World*; and Clive Brooker wrote *Knight Driver*. By then, the utilities and the hardware add-ons had gone. Games and the occasional book had become Hewson's best sellers.

Turning graft into gold

1983 proved to be an important year for a number of reasons. Firstly, Andrew quit NERC and worked at Hewson full-time. As the company became more successful, the one-room office expanded into two, and they also employed additional staff, including Debbie Sillitoe, who joined part-time in marketing.

Another key event that year was the submission of a 16K Spectrum game from ST Software called *3D Space Wars*. Written by commercial programmer and arcade enthusiast Steve Turner, it turned out to be the first in a trilogy of Spectrum games.

Steve Turner soon employed fellow friend, musician and arcade fanatic Andrew Braybrook to convert his trilogy to the Dragon 32. Braybrook was working at Marconi at the time and found the idea of programming games for a living far more appealing. Sadly, his conversions didn't sell in any great numbers, but he quickly switched allegiance to the Commodore 64, where he found his true calling. The first result of Braybrook's solo endeavours was the arcade platformer *Gribbly's Day Out*.

“It was brilliantly original,” remembers Andrew Hewson, “but the game never got the full recognition that it deserved, probably because it was so unusual that many people missed it.”

While Andrew Braybrook was carving himself a reputation on the Commodore 64, Steve Turner was working hard on a new 3D arcade adventure game for the 48K Spectrum called *Avalon*.

“There's no doubt in my mind that Steve Turner was one of the elite programmers of his day,” remembers Hewson. “He and I struck up a good relationship from the very beginning. He was original, creative and dedicated, and the products he delivered were stunning. I thought *Avalon* was head and shoulders above all the over ZX Spectrum games around at the time and would be remarkable even to this day.”

Avalon was a big success, and paved the way for a sequel called *Dragontorc*, which was also a big seller. ST Software eventually became Graftgold, and its partnership with Hewson flourished.

Adventures in Abingdon

Hewson Consultants' growing success resulted in a move in late 1983 from the ▶

☐ BY THE NUMBERS

3 versions of *Paradroid* were published by Hewson for the Commodore 64: the original, the 'Competition Edition' (also known as *Fast Paradroid*) and finally *Heavy Metal Paradroid*, on the 'Rack 'It' budget label.

12 was the number of years that Hewson survived as a book and software publisher.

93 editions of Andrew Hewson's monthly Helpline column for *Sinclair User* magazine were written between April 1982 and December 1989.

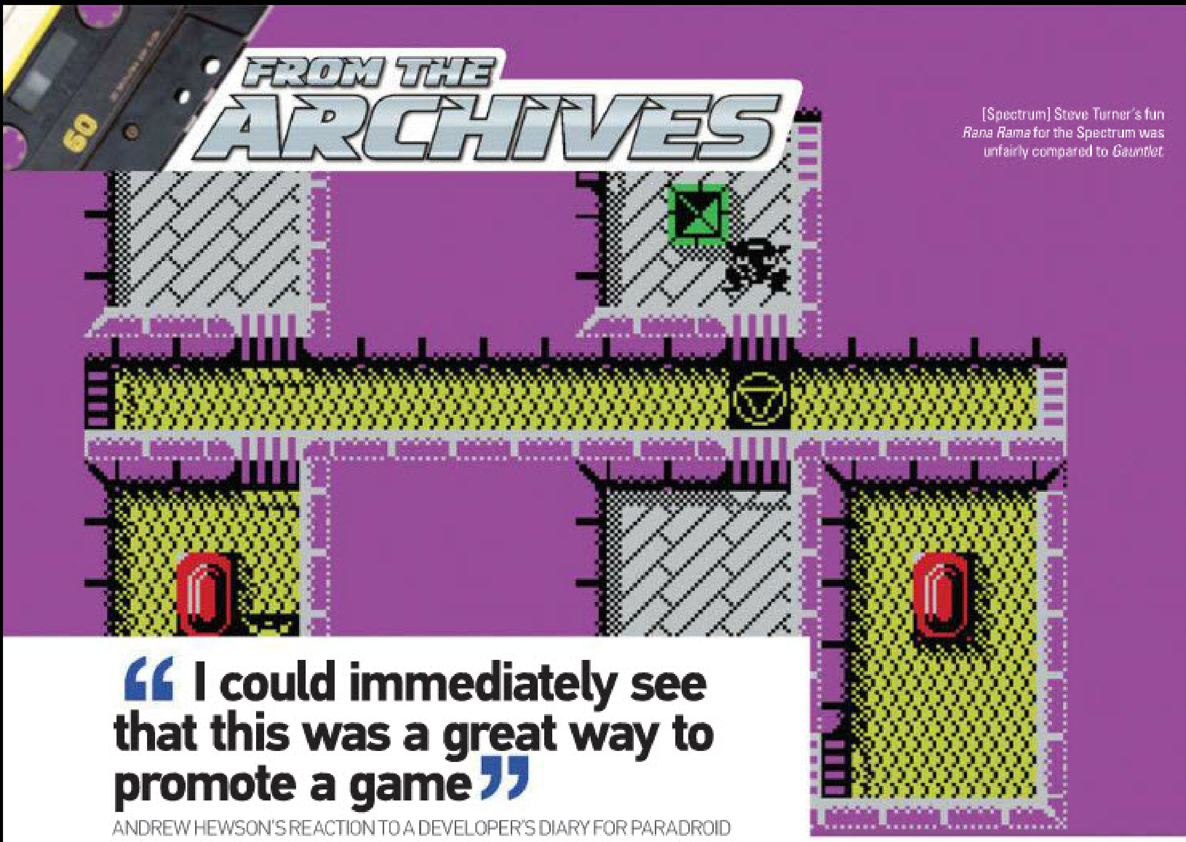
100 copies of Andrew's ZX80 book were initially produced.

£500 was how much Andrew spent to start the company.

£5,000 was how much money it cost Andrew Hewson to attend the Telecomsoft litigation hearing.

100,000 copies of *Night Flight II* and *Heathrow ATC* were sold by September 1984.

FROM THE ARCHIVES



[Spectrum] Steve Turner's fun *Rana Rama* for the Spectrum was unfairly compared to *Gauntlet*

TIMELINE

1980 *HINTS AND TIPS FOR THE ZX80* IS PUBLISHED. HEWSON CONSULTANTS IS BORN.

1981 *HINTS AND TIPS FOR THE ZX81* IS PUBLISHED. HEWSON ALSO SELLS ZX81 SOFTWARE AND PERIPHERALS.

1982 ANDREW HEWSON RENTS A SMALL OFFICE IN WALLINGFORD. MORE ZX81 SOFTWARE IS DEVELOPED.

"I could immediately see that this was a great way to promote a game"

ANDREW HEWSON'S REACTION TO A DEVELOPER'S DIARY FOR PARADROID

PARANOID ANDROIDS

Andrew Braybrook's classic game was called *Paradroid* – an amalgamation of 'paranoid androids' – because the other 'droids in the game were all out to get you.

Aside from the three Commodore 64 versions and Steve Turner's 3D homage on the Spectrum in the form of *Quazatron*, Hewson also got to publish 16-bit versions of *Paradroid* in late 1989 in the form of *Paradroid '90*, which was a spruced-up effort for the more demanding ST and Amiga players, coded by Andrew Braybrook and Dominic Robinson, who left Hewson to work for Graftgold in late 1987.

Hewson and Graftgold partially patched up their differences to collaborate on this new version of Andrew Braybrook's classic game, and Graftgold also contributed a few titles to Hewson's 'Rack It' budget range. Steve Turner wasn't entirely happy with the arrangement, though, as to make the deal pay dividends its budget games would have had to sell in huge quantities at a time when the 8-bit market was on a large downward spiral.

In the end, Hewson and Graftgold's reunion lasted just three titles before they all moved on once again, for the last time.

small offices in Wallingford to much larger industrial premises in Abingdon, just nine miles away.

"You didn't have to be a genius to work out that the office in Wallingford was too small," explains Andrew. "We were all shoe-horned into two rooms with the stock in a back room over the staircase."

The move to Abingdon allowed the business to expand on a number of fronts, including the chance to invest in some new hardware.

"By then we could justify running our own cassette duplication plant, so I brought my father in because I knew he would be able to run the plant successfully," says Andrew. But was it a good move? "It made sense for family reasons. I'm not sure it made sense completely in business terms but it gave us great flexibility in responding to demand."

Andrew was also able to create an in-house programming team, which was something he had planned for a while.

"I put the money I had earned from my books into backing some programmers who I thought had great potential. We had quite a lot of work available converting titles from one platform to another but it was very much a case of trying to fit the people and their skills and knowledge to the work."



[Amiga] *Paradroid '90* enhanced the original game to meet the demands of the Amiga audience.

Paradroid and Uridium

Andrew Braybrook's next two games for Hewson were *Paradroid* and *Uridium*, both for the Commodore 64. The former game got a lot of pre-release publicity thanks to a diary written by Andrew Braybrook, which was published during 1985 in a brand new computer magazine.

"I was visiting the editor of *Zzap!64* to talk about what we had coming next and he asked if they could publish a diary about a game we had under development," recalls Andrew Hewson happily. "I could immediately see that this was a great way to promote a game and I leapt at the opportunity while pretending for half an hour or so not to appear too keen!"

The success of the diary and the finished game put Andrew Braybrook on the map, and both *Paradroid* and its programmer went on to win significant awards that year. Thankfully he immediately started working on a sideways scrolling shoot-'em-up, which ultimately proved to be his crowning glory for Hewson.

"*Uridium* was simpler than *Paradroid* in that it had no significant back story, but technically it was superb and the balance was fantastic," extols Andrew Hewson. "The music, the action sequences and the graphics all functioned together to create a whole that was much greater than the sum of the parts."



[Spectrum] *Pyracurse* was Hewson's first attempt to create an in-house developed game.

However, the amount of effort that was needed from Hewson to get *Uridium* released on time was phenomenal.

"We knew from the magazine reaction and the advance orders that *Uridium* was going to be a big hit, and we had worked through the night to get the product packed and ready to go," says Andrew. "I got home late still full of nervous energy but in the space of a few hours I went from huge elation to deep despondency. We had all worked flat-out to put the product at the top of the charts, but I simply couldn't imagine ever being able to summon the energy or willpower to repeat the feat."

The talent magnet

Hewson was consistently publishing impressive games for the Spectrum, Commodore 64 and Amstrad CPC, and the company's reputation was continuing to grow. As a result, it was able to attract more top-notch 8-bit programming talent, including the likes of former Mikro-Gen stalwart Raffaele Cecco, who wrote a handful of trademark colourful arcade games including *Exolon*, two *Cybernoid* games and a pair of *Stormlord* titles. Newcomer John M Phillips, Steve Crow of *Starquake* fame, and Commodore 64 games guru Jeff Minter also produced games for Hewson.

"Jeff lived within 20 miles or so and I went to visit him," says Andrew. "I worked closely with Raf and John but Jeff was a bit of a loner and we never really found any common ground."

In the end, only one Jeff Minter game was published by Hewson: the colourful and sometimes perplexing Commodore 64 split-screen shooter *Iridis Alpha*. Other Hewson games included platformers *Technician Ted* and *City Slickers* from duo Steve Marsden and Dave Cooke, and shoot-'em-up *Gun Runner* from Christian Urquhart and Mike Smith.

Dominic Robinson was a Z80 programmer who had written a four-way scrolling demo on the Spectrum, hoping to persuade Hewson to let him write a

- **1983** ANDREW HEWSON QUITS HIS DAY JOB TO RUN HEWSON CONSULTANTS FULL-TIME. STEVE TURNER SUBMITS *3D SPACE WARS*.
- **1983** HEWSON MOVES TO LARGER PREMISES, INVESTS IN A TAPE DUPLICATION FACILITY AND ASSEMBLES AN IN-HOUSE DEVELOPMENT TEAM.
- **1984** HEWSON PUBLISHES A PLETHORA OF GAMES, INCLUDING *AVALON* BY STEVE TURNER. MIKE MALE'S SIMULATORS SELL OVER 100,000 COPIES COMBINED.
- **1985** HEWSON PUBLISHES *GRIBBLY'S DAY OUT* AND CONTINUES PROLIFIC RELEASES ACROSS ALL MAJOR 8-BIT FORMATS.
- **1985** *ZZAP!64* PUBLISHES A FIVE-PART DEVELOPMENT DIARY FOR *PARADROID*. THE GAME IS A BIG HIT WHEN RELEASED.
- **1986** *URIDIUM* IS A HUGE SELLER BUT FINANCES ARE TIGHT AND SOME IN-HOUSE DEVELOPERS ARE LAID OFF.
- **1987** NEW GAMES FROM JOHN M PHILLIPS, DOMINIC ROBINSON AND RAF CECCO ARE PUBLISHED.
- **1987** GRAFTGOLD TAKES *MORPHEUS* AND *MAGNETRON* TO TELECOMSOFT, RESULTING IN LEGAL PROCEEDINGS.
- **1987** HEWSON CREATES TWO BUDGET LABELS AND EMBARKS ON 16-BIT CONVERSIONS OF 8-BIT GAMES.
- **1988** HEWSON AND TELECOMSOFT SETTLE OUT OF COURT. NEW 8-BIT/16-BIT GAMES INCLUDE *CYBERNOID* BY RAF CECCO.
- **1989** HEWSON FINALLY RELEASES SOME ORIGINAL 16-BIT GAMES, INCLUDING *ONSLAUGHT* AND *CUSTODIAN*.
- **1990** 8-BIT COMPILATIONS OF OLD HITS KEEP HEWSON GOING.
- **1991** ANDREW HEWSON CLOSES HEWSON CONSULTANTS IN APRIL DUE TO LACK OF FINANCE.

Spectrum version of *Uridium*. Dom saw a job advert for a 6502 programmer at Hewson and decided to get in touch.

"I applied for the job despite never having written a line of 6502 in my life and hoping to blag it! I was really a Z80 expert," remembers Dom with a wry smile. "The position went to John Cummings, a Glaswegian who I went on to work with in a number of companies over the next five years or so."

However, unperturbed by the original rejection, Dom got a second chance when Hewson needed a Z80 programmer shortly afterwards: "In the end I was hired on the strength of the Spectrum code I had showed them. I ended up doing a wide range of jobs – code, graphics and level design – for *Pyracurse* before I eventually moved on to write *Uridium*."

Pyracurse started as a game idea from Andrew Hewson. Originally set in Egypt and called *Sphinx*, it was worked on by Dom, Keith Prosser and Mark Goodall, who were part of Hewson's in-house development team at the time. Keith had previously written Hewson's Amstrad CPC Z80 assembly programming package Zapp. However, once *Pyracurse* was completed, the in-house programming team was broken up, with only the newcomers Dom Robinson and John Cummings left.

"That game was my attempt to create a programming team who could produce original material and, to be fair, they got pretty close," says Andrew. "It was technically clever but visually it was never going to set the world alight. It also ran way over budget and by the time it was ready to ship we were financially stretched and so I had to lay people off. As you can imagine, doing so didn't earn me any friends, but it had to be done."

Portakabin fervour

"Throughout most of this period we worked in a yellow Portakabin in the car park behind the main warehouse," remembers Dom. "We had moved out of the development office while it was redecorated, but once it was finished the marketing people moved in. As it turns out, this was great for us, as the Portakabin was 'out of sight, out of mind', so we had plenty of peace and quiet and no complaints about the loud music!"

Dom wrote the highly acclaimed Spectrum version of *Uridium* in the Portakabin with input from John on the modified level designs. Once that was finished, Andrew Hewson challenged Dom to write a shoot-'em-up for the Spectrum that was fast, had lots of colour and no attribute clash. The result was the impressive *Zynaps*, which was then converted to other platforms by John Cummings for the C64 and Michael 'Mel' Croucher, who had previously ported *Uridium* to run on the Amstrad CPC.

"I remember it as a hugely enjoyable period. The hours were long, but we loved what we were doing and had a great laugh doing it," says Dom.

Rotating towers

While the Commodore Amiga and the Atari ST were starting to make an impression elsewhere, the strong 8-bit games kept coming for Hewson. John M Phillips' first effort was the technically neat *Impossaball* 3D puzzle game, but his next title made a much bigger impression.

"John produced a rotating cylinder on the Commodore 64 with a sine wave passing across the top of it," explains Hewson. "I didn't see a game in it but it was suggested that he try turning the cylinder through 90 degrees."

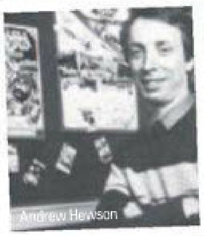
The result was a vertical rotating cylinder. John added sprites running across the front of it, and he planned to link multiple cylindrical towers together to form battlements, but Andrew thought that approach was unnecessarily complicated.

"At the time I was still in thrall to the magic simplicity of *Uridium*, so I made a ▶



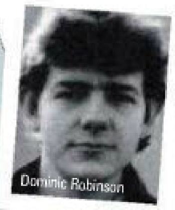
[C64] *Gribbly's Day Out* on the C64 was a wacky and technically excellent platform game by Andrew Braybrook.

WHERE ARE THEY NOW?



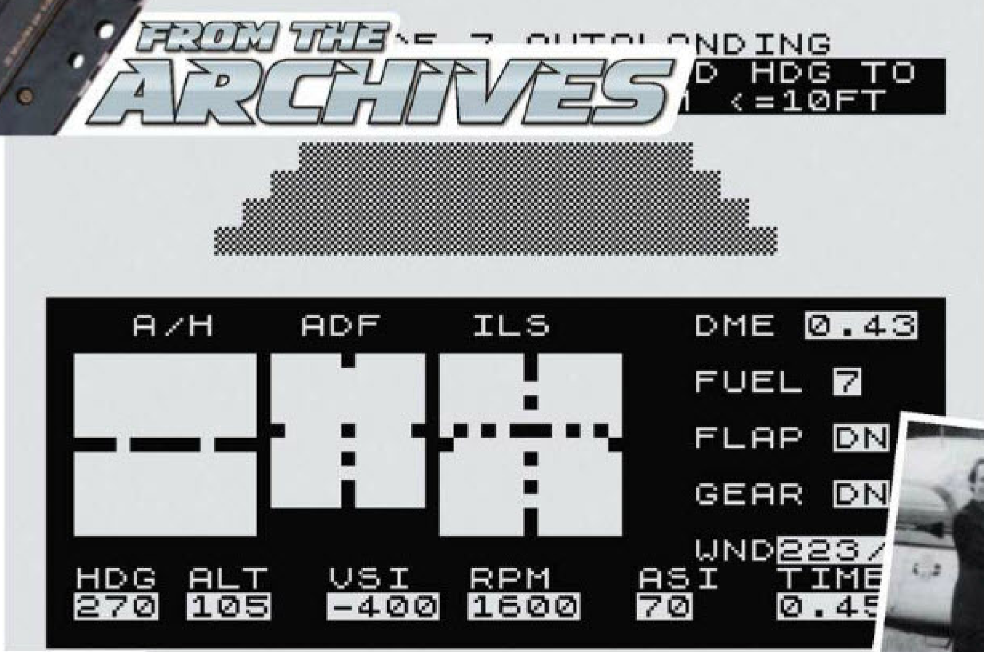
Andrew Hewson dropped out of the games industry a number of years ago and is still trying to develop a personal perspective on everything. These days he keeps himself busy and has also recently become a grandfather for the first time.

Mike Male went on to establish Micro Nav Ltd in 1988, a company developing and supplying air traffic control and fighter control simulators and training systems. Mike is still at Micro Nav today, where he is CEO. "My experience with Andrew Hewson was great throughout. He was always encouraging me, he liked the more serious games that I was producing, and it was pretty lucrative at the time. It was also gratifying to have sold the many thousands of copies of each program that we did, and certainly the extra income was nice!"



Dominic Robinson worked for a number of different developers after he left Hewson, but today he works at SN Systems as a principal software engineer. SN Systems has been part of the Sony Computer Entertainment Group since 2005, providing PS2, PS3 and PSP development tools for console game programmers worldwide.





[ZX81] *Pilot*, the 16K flight simulator for the ZX81, was impressive.









“I think the bottom line is that it’s actually extraordinarily difficult to maintain a creative edge”

ANDREW HEWSON EXPLAINING HEWSON’S ULTIMATE DEMISE

few suggestions,” he remembers. Among them was that the basic premise should be to climb to the top of each tower via a series of platforms and that there should be a short break before moving on to the next one.

Hewson showed off *Nebulus* at the PC Show in September 1987 and it got some attention, as Andrew explains: “I remember Julian Rignall coming along to check out what we had to offer. The game was static on the screen and he picked up the joystick and starting moving it. The tower rotated and I saw him lean forward, eyes wide open at what had just happened. I thought: ‘That’s it! Sold!’”

The Morpheus Manoeuvre

Throughout 1987, there were rumblings that Hewson was heading for financial trouble. These rumours resulted in Graftgold becoming twitchy over the stability of its sole publisher. With no actual contract to tie *Magnetron* and *Morpheus* to a publisher, Graftgold signed a deal with Telecomsoft, the software division of BT. Over 20 years later, Andrew Hewson is finally able to shed some light on what happened from his perspective.

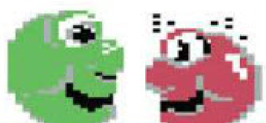
“When *Morpheus* came along I had truly serious doubts. I diligently listened to Andrew Braybrook explaining the game, but I could not for the life of me see the entertainment value. I’m not sure how Steve felt. I suspect he had his doubts as well but felt that between them they could pull the rabbit out of the hat.”

Those doubts meant that when Telecomsoft signed *Morpheus*, Andrew wasn’t too worried. However, Graftgold had previously given Hewson an unfinished version of the game, and this is what triggered the infamous legal action, as Andrew remembers.

“BT took out an ex parte injunction against us to prevent us from doing what it would never occur to me to do anyway: to ship an unfinished game. At the eventual injunction hearing, we told the judge we were not remotely interested in releasing an unfinished product. He accepted the argument but ruled that BT had more money than we did and therefore the injunction could stand because they could pay us any likely amount of damages if we won but the converse might not be true,” says Andrew with a shrug.

So what happened? Life carried on as normal for six months and then Andrew Hewson contacted Paula Byrne at Telecomsoft and they agreed to settle out of court over an Indian meal in the heart of London. Andrew recounts: “BT were on a hook of their own making and were happy enough to be allowed to wriggle off it.”

The outcome was that Telecomsoft eventually published *Morpheus* for the Commodore 64 as well as Steve Turner’s *Magnetron* for the Spectrum. More significantly for Andrew, it ended the working relationship that Hewson and Graftgold had enjoyed over the last three or four years.



FAMILY MATTERS

Andrew Hewson involved his wife Janet, his younger brother Gordon, and his father, who had been an industrial chemist working for Marconi, during Hewson Consultants’ 11-year existence between 1980 and 1991. Although he no longer has any involvement in the industry today, the Hewson influence continues thanks to Andrew’s son Robert, a senior creative designer for American developer Dark Energy Digital, which is currently applying the finishing touches to its upcoming Xbox 360 game *Hydrophobia*.





Mike Male being presented with a framed gold cassette.

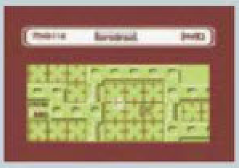
SIX OF THE BEST



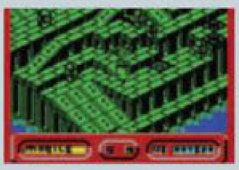
Avalon
Steve Turner's 3D adventure was a revelation. The astral projection of the wizard Maroc floated around locations collecting objects, casting spells and trying to avoid foes. It spawned an even larger sequel called *Dragontorc*.



Nebulus
Nebulus was technically unique, simple to play and had that elusive 'just one more go' quality. Released as *Tower Toppler* in the US, it also 'inspired' a level in the *Mickey Mania* console game a few years later.



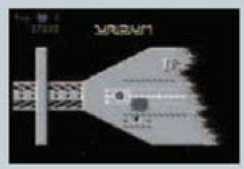
Paradroid
Steer your robot, grapple with other droids and upgrade as you attempt to clear each deck in this hugely enjoyable experience. The best version is the 'Competition Edition', which is faster and less glitchy than the original release.



Quazatron
Effectively *Paradroid* for the Spectrum but in 3D, this game from Steve Turner might have suffered from some jerky scrolling but was otherwise just as enjoyable as the Commodore 64 original that inspired it.



Southern Belle
Steam engine simulators aren't going to be for everyone, but if it's your thing, *Southern Belle* was worth a go. Simulating the powerful King Arthur Class 4-6-0, Bob Hillyer and Mike Male took the player on a journey from London Victoria to Brighton.



Uridium
A simple but elegant shoot-'em-up. Fly your Manta over each Super-Dreadnought, blasting everything that moves. The C64 original is the best, but the Spectrum version is far better than it should have been. An absolute classic.

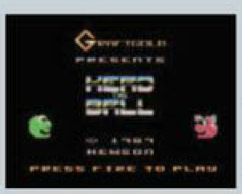
THREE TO AVOID



Future Basketball
A very poor *Speedball* clone for the Atari ST and Commodore Amiga. Average graphics, poor animation and very little originality meant that this game never really stood a chance. The developers obviously had few ideas of their own, and it showed.



Alleykat
As technically good as it was, *Alleykat* was a distinctly average arcade game from Andrew Braybrook, especially when compared to his two previous titles. Blasting your way through an obstacle course and flying as fast as you can didn't make for an enjoyable game.



Head The Ball
A *Super Mario*-style platformer with ropey graphics for the C64. In Hewson's defence, it only released *Head The Ball* as part of a 1990 compilation called '4th Dimension', which came with half a dozen or so other games. That makes its disappointing quality all right, then.



[C64] Raf Cecco's *Exolon* was converted to the C64 by Nick Jones.

Journey's end

Hewson's eventual entry into 16-bit gaming started tentatively, with standard conversions of existing 8-bit hits like *Exolon*, *Zynaps* and *Rana Rama*. John M Phillips wrote the shoot-'em-up *Eliminator* specifically for the Atari ST, and after a slow start Hewson did publish some reasonable original 16-bit games including *Onslaught* from Chris Hinsley and Nigel Brownjohn, and *Netherworld* from Imagitec Design.

"I didn't realise why we had no outstanding 16-bit products until many years later" begins Andrew. "In retrospect, I think my books and my *Sinclair User* magazine column were far more influential than I realised. We were approached by some very talented people because my reputation preceded me. Looking back, I should have taken the same approach to the 16-bit market. If I had settled down with an Amiga, worked out what made it tick and then published a book, this would have given me some personal insight into what could or couldn't be done with the machine and we would have attracted another wave of talent."

The slow reaction to the new machines and the lacklustre early conversions put Hewson at a disadvantage, and this ultimately proved to be its downfall. Hewson Consultants finally went under in April 1991. Just two months earlier, its German distributor revealed that it was in financial trouble and couldn't pay the bills. By then, Germany represented 40 per cent of Hewson's revenue, so this news hit the company hard.



"We struggled on for a while, but in April I decided the most responsible thing to do was to call it a day," explains Andrew. "Looking back on it, I think we could have traded through the problems, but I had nobody to turn to and was pretty worn down."

By then, Andrew had realised that the small cottage industry that had started in the early Eighties had fundamentally changed at the turn of the new decade.

"The key problem is that games cost a lot of time, money and effort to develop, and the pay-off is by no means guaranteed. It was obvious to me then, and had been for several years, that the whole industry was going to pass into the control of the financiers. I felt that the time for pioneers like me was rapidly disappearing."

Andrew now looks back on Hewson Consultants with mixed emotions.

"It was a stressful period of my life, which I mostly realised at the time, but it was rather like holding a tiger by the tail – too dangerous to hold on but also too dangerous to let go. I was a bit of a wreck after Hewson went under and I can't have been much fun to be with. I think the bottom line is that it's actually extraordinarily difficult to maintain a creative edge. I was lucky enough to be involved with some fantastic new ideas and products, but after a few years we lost our way. I don't think that's unusual."

Of course, the story doesn't quite end there, because Andrew returned to games publishing with a new company: 21st Century Entertainment. But that's another story…

Shenmue

Record-breaking, technically astounding, but cripplingly expensive and still unfinished. Cole Machin asks why Shenmue continues to command such a following?



IN THE KNOW

- » **PUBLISHER:** SEGA
- » **DEVELOPER:** SEGA-AM2
- » **PLATFORM:** DREAMCAST
- » **RELEASED:** 1999
- » **GENRE:** ADVENTURE
- » **EXPECT TO PAY:** £15

Over the years there have been many games hailed as triumphs of game engineering, as milestones of progress in the industry and as huge leaps forward in terms of depth and gameplay. Of these titles, few have encountered as many difficulties or been as beloved by its fans as *Shenmue*. Within its development, the series has outlived two consoles, racked up a monumental price tag and created a fan base that has endured nearly a decade since the last release.

As many *Shenmue* fans will already know, the series' beginnings were rooted deeply in another Sega-AM2 series, as a planned RPG expansion of the *Virtua Fighter* universe intended for the Sega Saturn; a genesis that can still be seen not only in the character modelling, but in the source code as well. The brainchild of Yu Suzuki, even in the final release of the game, Ryo's character ID remains 'AKIR', a shortened form of 'Akira'. Although it is difficult to pin down exactly when the game grew beyond these humble roots, it would certainly seem that it came late in the project's two-year-long development for the Saturn or early in the Dreamcast development. In fact, it's hard not to develop a knowing smile looking over early pictures of the character that would become Ryo while comparing them to images of Akira from *Virtua Fighter 2*. Even in the video of a development version of Saturn *Shenmue*, packaged with the Dreamcast *Shenmue II* release, the resemblance to Akira is obvious.

Despite the obvious amount of progress made during this two-year span, the writing on the wall was becoming clear for the Saturn as North American sales lagged, developers struggled with the notoriously difficult setup of the system's hardware, and support from Sega of America began to fail. Work on the Saturn version was halted; it was clear that if the *Shenmue* saga was ever going to see the light of day, it would have to be done on a different console, and Sega had just the console in mind.

Thus was the beginning of *Project Berkley*, the codename used for the early development of *Shenmue* on the still pre-launch Dreamcast. Several videos of these *Project Berkley* tech demos can still be found on the internet. It is interesting to note that the age of these demos marks *Shenmue* out as possibly one of the very first games to begin development for the Dreamcast. The *Project Berkley* moniker remained attached to the project for some time, sticking long enough to appear on the teaser disc attached to the Japanese launch release of *Virtua Fighter 3tb*. This disc was, for most, the first glimpse of AM2's new project.

Although it's tempting to blame much of the cost of *Shenmue*'s development on the difficulties encountered during the Saturn era and the shift in development from the Saturn to the Dreamcast, it would not be entirely accurate. Regardless of the change to the more coder-friendly console, the *Shenmue* project was still no laughing matter. The sheer cost of manpower and organisation for such an undertaking is immense. In fact, when we asked lead systems programmer Tak Hirai about his role in the development of *Shenmue* for the Dreamcast, he replied: "I was responsible for managing a team of 87 programmers. I also made final judgements regarding the overall program behaviour of the whole game. Managing this huge team of programmers was a nightmare since it could take more than 14 and a half hours a day just speaking with each person individually. If I only spoke with each programmer for ten minutes, you can see how it would add up."

In terms of his own programming workload alone: "I was in charge of not only constructing the coding environment but also coding a fundamental processing architecture to make system programmers easier to work with. I was also in charge of the character system, rendering pipeline, lighting engine, and also optimising the performance of these systems. I had my hands dirty on playing around with SH4 assembly [programming language] on the Dreamcast to tune up the performance. Small and detailed codes used in the cut-scenes such as physics simulation of phone cords, handcuff chains in the second chapter, and trailing visual effects of the car signals were also done in my spare time. I finally ended up creating around 200 source files out of more than 300 files in total."

To this day it's amazing that the project was completed at any cost. Although it's possible to point to other games released in the same era with a similar scope of story, we've encountered nothing on the same level in terms of the game systems. With such a large team and array of smaller projects involved, development required fantastic organisation of not only the



Who's Who

The key players in Ryo's adventure on the streets of Yokosuka

Nozomi Harasaki

Nozomi is a childhood friend of Ryo's, and the game's primary love interest and occasional damsel in distress. She's remained in Japan despite her parents' move to Canada and can usually be found working at her grandmother's flower shop. She has the largest number of unique phone conversations of any character.





Masayuki Fukuhara

Fuku-san is a former student of Iwao Hazuki and has lived in the Hazuki residence since a young age. He is often shown to be somewhat clumsy and socially bumbling, occasionally serving as comic relief. In spite of a few faux pas that make Ryo's life a little harder, he's extremely loyal and it becomes clear that Ryo thinks of him as a brother.

Gui Zhang Chen

Gui Zhang is the son and student of antiquities trader and martial arts master Chen. Although the two have a rocky beginning, Ryo and Gui Zhang form a close, if unconventional, friendship. Their evolving friendship is perhaps the strongest relationship development found in the first game.





Mark Kimberly

Mark is a co-worker of Ryo's at the harbour and the man responsible for his forklift driver's training. He has come to the harbour to search for clues as to the fate of his missing brother, leading to some very emotional scenes with Ryo. Although he is an often-overlooked character, disc three would just not have been the same without him.

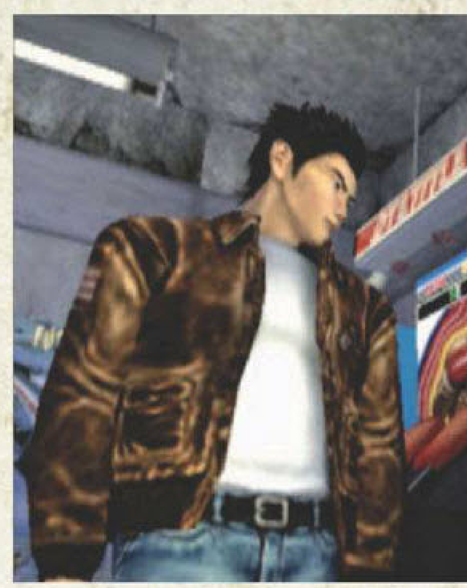
Lan Di

Lan Di, the antagonist of the series, is the man responsible for the death of Iwao Hazuki and the target of Ryo's quest for vengeance. Through the course of the first *Shenmue* he is left a mysterious character. Little is known about him beyond his connection to the Chi You Men, desire for the mirrors and apparent sheer brutality.



available manpower but also of the game's program and the programming environment itself.

Hirai was kind enough to go on to explain the streamlining required: "The programming section was roughly divided into two groups. The first was the system programming team and the other was the game event programming team. In-game events in *Shenmue* were driven by the scripting language. Regarding the program interface, we defined the table of functions associated with in-game event functions so that it wouldn't affect the event program structure whenever we updated the system components. In order to maximise the performance in an environment where up to 87 programmers had to work together, we eased the workflow by downloading pre-compiled object files, which didn't depend on source code, in an individual programmer's local environment. I thought it was ridiculous for 87 programmers to spend time recompiling just because someone modified one bit of source code."



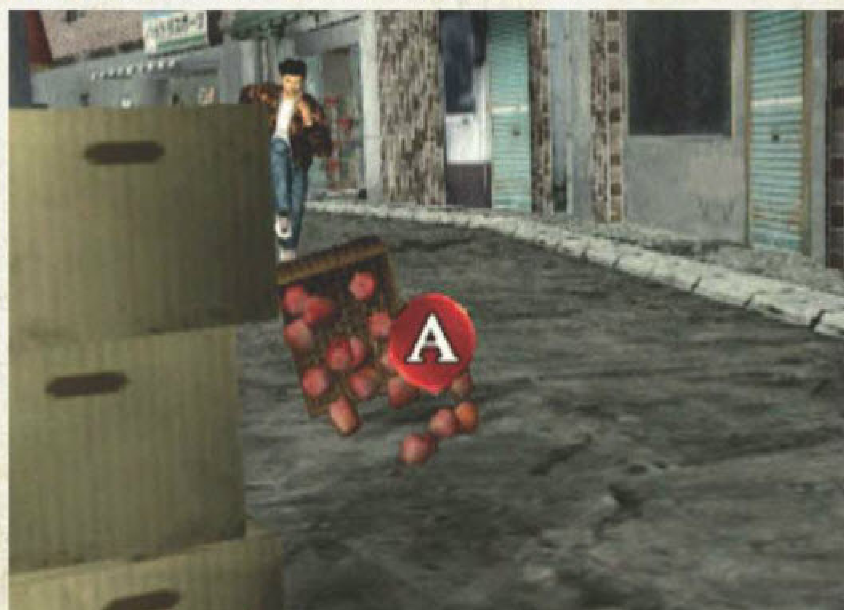
Regardless of the expense of such a development, it was necessary to realise the vision intended for *Shenmue*.

"We took tremendous efforts to implement features that were invisible to the player," continues Hirai. "If the game felt natural to you and nothing stood out as particularly unrealistic, that's because we spent a lot of time to create the game's subtle details despite the very limited hardware horsepower and technology of the time. When it comes to the weather system, it heavily depended on the processing performance, so the most important issue was to optimise the performance. Regarding non-player characters, all 300 characters were specifically positioned in the game field so we didn't have to blindly calculate the collision between all characters if everything was in sync. However, when a non-player character had to change their walking path to avoid the player, it became increasingly harder to manage what would have been a very simple thing in the real world, such as making an off-track character stand right in front of a door."

It's difficult to explain to a modern gamer just how amazing these features were at the time of *Shenmue*'s release. We can still recall our awe, watching the fish swim in the koi pond or noticing Ryo's shadow falling in different positions depending on the time of day. Although the features may have been, as Hirai says, largely invisible to the player, they certainly did expand upon the game in truly amazing ways. Even if, unlike us, you didn't spend at least a few of Ryo's lunch breaks at work chasing birds that would scatter realistically as you charged towards them.

As the creation of the game progressed, of course some of the

» [Dreamcast] Love them or hate them, Quick-Time Events were a huge part of the *Shenmue* series.





» [Dreamcast] The variety of moves was nothing short of astounding.



Mini-games

You really can't talk about *Shenmue* without mentioning the sheer volume and playability of its mini-games. Although purpose-built mini-games such as *QTE Title* and darts were not entirely unheard of in RPGs and adventure games of the time, the inclusion of full classic arcade games such as *Space Harrier* and *Hang-On* was a unique touch. The mini-games were a big part of bringing the entire experience together, of giving you the feeling that you could do whatever you liked with Ryo's time. Throughout the existing series, we were treated to a wide variety of mini-games, including *Space Harrier, Hang-On, After Burner, QTE Title 1* and *2*, darts, pool, slots, *Lucky Hit* and a few variations of dice-based games. It's a selection of games that would have done early entries in the party game genre proud.

"We can still recall our awe, watching the fish in the koi pond"



features originally planned for the game did have to be scrapped, even in a game as epic as *Shenmue*. Of these features, the most talked about certainly had to be the ability to ride a bicycle, which was demonstrated in one of the early tech demos. We couldn't resist the urge to ask Hirai just why this feature didn't make the cut and what other features failed to make it into the final version that he may have liked to see on the published discs.

"Actually, I was the first guy who implemented the bike-riding feature," he explains. "This was done at the early stage of the development. We originally intended to begin the game in China, so I made it as a showcase to see how it looked when you rode the bike in a meadow. Another programmer took over that part of the project and worked on the vehicle programming at the end of *Shenmue*. I personally think that we had to cut this feature out from the game because there wasn't a significant enough advantage for the player to ride a bike through the city over simply running around in Yokosuka.

"During the development, there used to be special features, like the player being able to lift up an object like a house and throw it. Fast-forwarding or rewinding the day and night cycles worked great for debugging the game, so I wanted to leave these features in the final product as Easter eggs."

Regardless of what features failed to make an appearance in the published version, the final release suffered from no lack of things to do. Above and beyond the systems discussed earlier, the breadth of little extras is fantastic. You could choose to spend your time collecting toys, drinking sodas, buying crisps, taking care of your stray cat or playing games at the local arcade. It's a funny thing, as truly engrossing as the story of *Shenmue* is, that it is quite linear, allowing only a few hidden scenes without any true branching of the main storyline. That said, the funny thing is that we've never felt at all constrained while playing *Shenmue*, which we believe is a result of these extras. Somehow the ability to waste a day playing darts, to choose dried fish over milk to feed your cat, to satisfy your voyeurism by rummaging through Ryo's drawers, or just to give Ine-san a call during your lunch break all comes together to give you an amazing feeling of freedom. Seemingly, that was no accident.

"We created a lot of innovations never seen before *Shenmue*," says Hirai. "I would say the hardest part of this project was to imagine and create a 'you can do anything' kind of feeling, which did not exist in that era."

Shenmue's impact on the gaming industry was huge, opening a door to a new sub-genre of games that did not previously exist. Even beyond this, it opened our eyes to what could be done, and it raised the bar just a little in terms of the effort and forethought that we demand from game designers.

"I think that *Grand Theft Auto* owes *Shenmue* a lot for its great success, even after coming into the 3D realm," posits Hirai. "Everyone I've met also mentions the detail quality in *Shenmue*. I've been told: 'Don't do so much on the quality to the extent of making a cod in a pond swim smoothly.' Some even said this to me out of fear, since we might make this level of quality an industry standard! It might be simple to say it's about the quality, but I'd rather say it's about 'quality to make it feel real', which is how this project contributed to push the envelope of the gaming industry."

Often the largest impact of a project like *Shenmue* lays in what the creators

themselves take away with them, with the attitudes and ideas they carry into their future projects. As such, we couldn't help but go on and ask what effect the creation of this game had on Hirai personally and his team: "It makes me continuously think and express my thoughts as an engineer, since the project was filled with obstacles and impossible goals. The production took four whole years and I'm proud of myself as the lead programmer to have brought this game into the hands of players, even though we've now graduated through multiple generations of consoles. A lot of team members joined and left the project, and there were so many 'firsts' for us and it was very hard to see how it would all turn out, and how it would be remembered. I owe my accomplishment of four years of lead programming experience to those who worked at my side until the end of the project. Many thanks to all of the team members who supported me."

Despite any impact it may have had, the fate of the series itself was a sad one. The original release cost a colossal $70 million to produce, which is still an astronomical sum and completely unheard of at the time. Dreamcast sales were simply not high enough to support such an expensive game – if every Dreamcast owner at the time of the game's release had purchased a copy, the production would still have lost money. Sales for the original instalment were, however, reasonably strong, at over a million copies worldwide. Unfortunately, the fate of the series was tightly tied to the Dreamcast, a system that was about to run into some very serious competition from Sony's PlayStation 2. The game's release came just a few short months before the release of the PlayStation 2 in Japan, and only days after in the European and North American markets. It would only be another 16 months before the discontinuation of the Dreamcast in the North American market, which is a difficult place for a console-exclusive trilogy to find itself.

The second instalment was released for the Dreamcast in both Japan and Europe shortly before the system was killed in the European market, meeting reasonable sales. For the North American release, however, the writing was on the wall for its console of choice once again. *Shenmue* had outlived its second console. Demand for the game was still relatively high, however, with many fans importing the European release for play in North America, before the region's official release came almost a full year later for Microsoft's Xbox, which many observers consider a fatal mistake. The previous availability of the European import for the series' established fans greatly reduced the title's sales. Perhaps an even larger issue was the jump between consoles itself. At the time, the Xbox remained an expensive piece of hardware, staving off many Dreamcast owners who may have considered purchasing Microsoft's console in order to continue the series. In addition, Xbox owners who had not previously owned a Dreamcast were left



Magic Moments

Dobuita

It's hard to explain just how magical the first trip to Dobuita could feel at the time of *Shenmue*'s release. The number of unique characters, the ability to talk to them all in full audio. The freedom of being able to go to the arcade, or drop in to the Tomato Convenience Store. Being able to explore the town and its shops. It remains, to this day, one of our fondest memories of modern videogaming.



" If every Dreamcast owner had purchased a copy, the production would still have lost money "



» [Dreamcast] Anyone who has played *Shenmue* is extremely familiar with this scene, and with sneaking into Dobuita the back way so you won't get harassed to buy him yet another soda.



» [Dreamcast] Ryo's morning forklift race goes a long way to both kick the day off and show just how much workplace health and safety regulations have changed over the years.

Shenmue III



Through the long years since the release of *Shenmue II*, the sizable *Shenmue* fan community has not suffered silently in its desire to see the series continued. There have been the more conventional campaigns aimed at getting Sega's attention, including mass mailings of letters, an online petition that has earned over 60,000 signatures, and general forum griping. There have also been some very inventive and interesting campaigns, such as the mass mailing of toy capsules to Sega's offices.

The *Shenmue* community has managed to keep itself busy with other pursuits as well. Shenmue Dojo (www.shenmuedojo.net) has been the most prolific in its modding and exploration of the two existing games. If you've ever wanted to see Lan Di sobbing on a park bench or learn all about the character modelling, then it's certainly the place for you. Mind you, if you want to ask a question, you just might want to use the search feature, as with seven years of posts available, numbering almost half a million, most of the newbie questions that could be asked have been answered.

Flashbacks
By killing off Iwao Hazuki in the opening moments of the game, the story writers were left in the difficult position of making you truly care about his death retroactively. It was done predominantly with sepia-tinged flashbacks, building his character in the early stages of the game, and it certainly worked. You'd need a heart of stone to sit through Iwao's training and feel nothing.





Lost brother
Mark's quest to discover the fate of his lost brother provided more than one great moment in the latter part of *Shenmue*. This scene stands out as the best example. It's hard not to let your heart go out to the fellow as he begins to open up to Ryo regarding his suspicions and fears.

Nozomi in the park
We never fully understood why it was that Nozomi chose to finally tell Ryo about her feelings for him until shortly after the death of his father – it just seems like bad timing. Regardless, by the time you reach this point, you're likely pretty invested in the romantic subplot between the two. It's one of the rare points of the series where you wish that you had just a little more control over what Ryo says.





Sail away
It may be a little obvious, but it's hard to discount *Shenmue*'s final scene when discussing the game's magic moments. It's impossible to stay as implacably stoic as Ryo himself as he sails away from everyone in his life, from everything he knows, to continue his quest.

with the second instalment of a story-driven game – a title that picks up in the middle of a story they have not become attached to. All of these factors came together to form a death sentence. Sales were dismal.

Any possible third entry was left in a nearly impossible condition. It had no console and, in the minds of the executives, no market. To continue the series, much of the initial cost and time spent on character modelling and environment building would need to be abandoned and re-created, making any possible climb to profitability for the series a steep and difficult one. Due to the sudden cancellation of the series, conjecture has been widespread for years as to what state the third in the series was left, with some even maintaining that a playable build exists somewhere, however unlikely this may be. It was clear that the Dreamcast would not be continuing far into the future during the production of the second game; Sega had no intentions of building another console to shift development to, even if it felt that it could be made profitable.

All of this logic, however, couldn't kill all hope of playing out just a little more of the *Shenmue* story. We had to ask Hirai if he was aware of any development on a third instalment in any form. This was all he had to say on the subject: "There was none that I know of, but I personally would love to see this saga continued."

Although there have been several fan-based campaigns for a third *Shenmue*, Sega has been stoic regarding the possibility of a third entry, often citing the poor sales of *Shenmue II*, and Sega officials have been clear that there are currently no plans to continue the series. Regardless of official word, there have been several hoaxes over the years regarding pending announcements from Sega, some of which have included footage from an ill-fated tie-in called *Shenmue Online*: a massively multiplayer conceptualisation of the *Shenmue* universe publicly announced in 2004 as a joint venture between Sega and JC Entertainment.

Development work on *Shenmue Online* ran into difficulties a year after its announcement when JC Entertainment withdrew from the project. Due to the nature of the joint development agreement, it became unclear as to who would continue to hold the rights to the *Shenmue Online* concept. Seemingly, Sega did continue production on the title for some time after the split, but little to nothing has been heard about the project for several years. Although it has never been officially announced that development has been cancelled, it seems unlikely that the game will ever see the light of day.

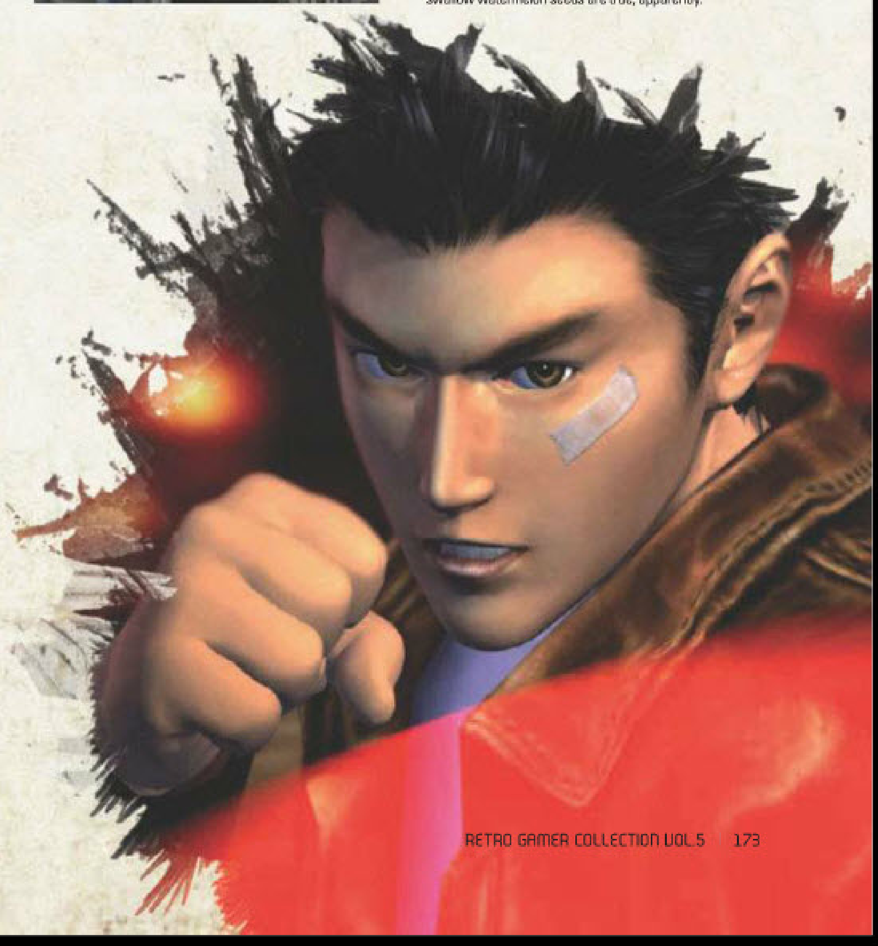
In the face of these cancellations and years of delay, *Shenmue* fans were handed some hope recently when Sega announced the inclusion of Ryo Hazuki in the kart-racing title *Sonic & Sega All-Stars Racing*, a decision made by Sumo Digital that garnered much attention. Sega itself made use of this inclusion to market the game, teasing Ryo's inclusion as well as holding a raffle for limited edition Ryo Hazuki figurines, bringing the series more attention than it has received in many years and fuelling the hopes of those who wish to see it continued.

» [Dreamcast] Although many gamers preferred the Free Battle system, the QTE fights could be quite cinematic.



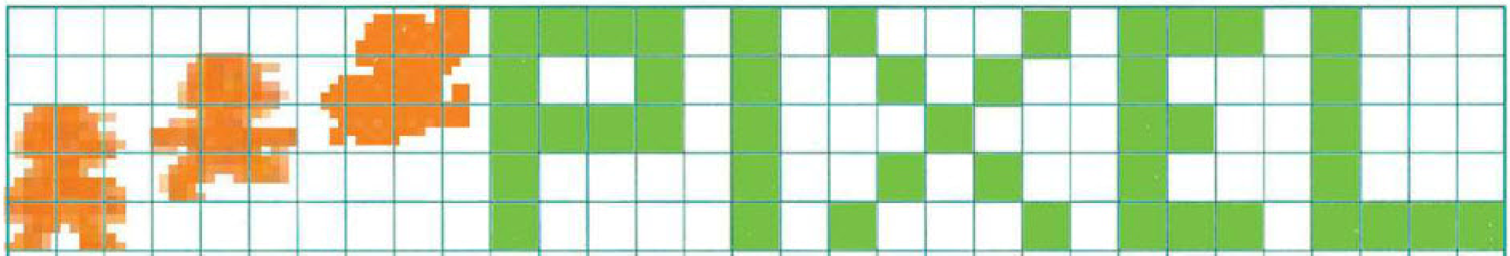


» [Dreamcast] The rumours about what happens when you swallow watermelon seeds are true, apparently.

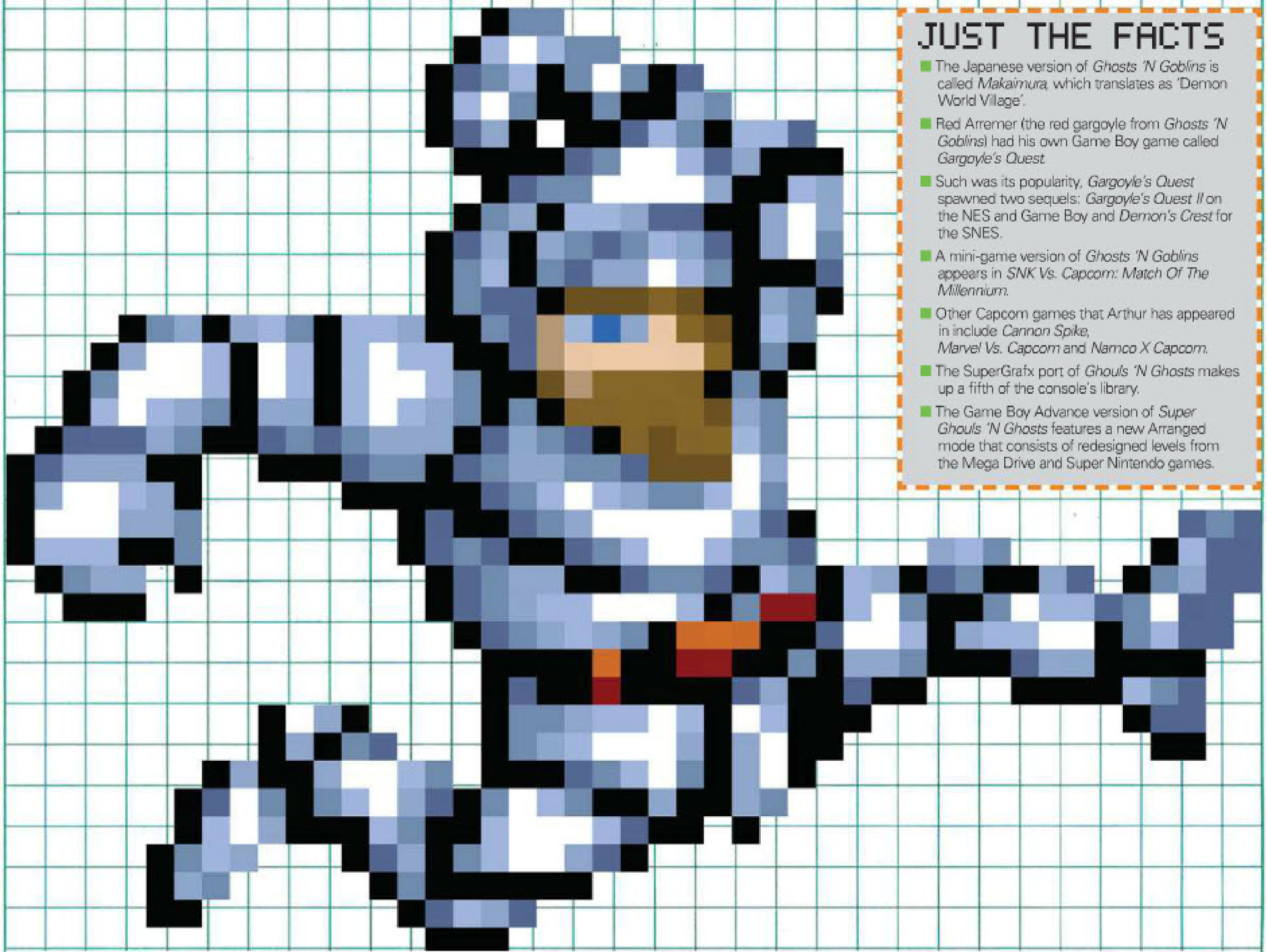


Thanks to Tak Hirai, James Mielke and all the folks at Q Entertainment for taking time to make our interview possible and to circumvent any language barrier between us.

Project **Ghosts 'N Goblins**



SPRITES ARE ONE OF THE BEST INVENTIONS EVER, SO WHAT BETTER PLACE THAN RETRO GAMER TO LOOK BACK AT THESE PIECES OF ART? THIS MONTH, WE PRESENT THE GHOSTS 'N GOBLINS FRANCHISE



JUST THE FACTS

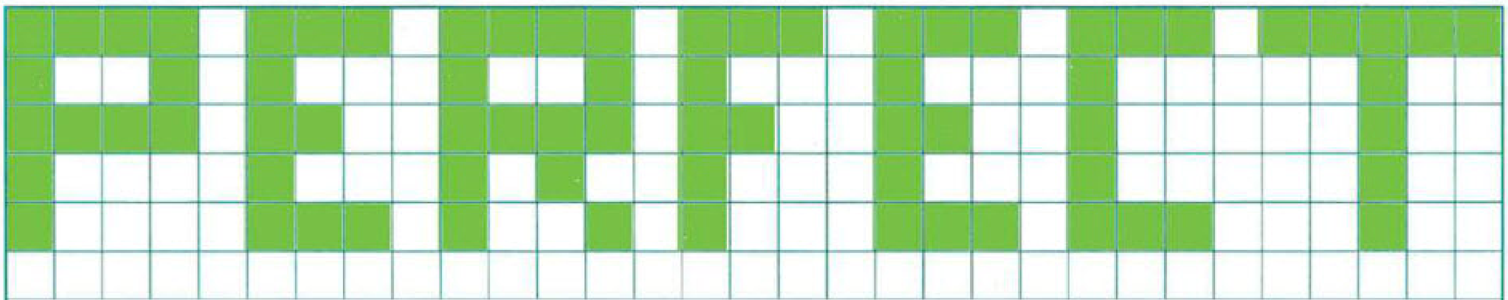
- The Japanese version of *Ghosts 'N Goblins* is called *Makaimura*, which translates as 'Demon World Village'.
- Red Arremer (the red gargoyle from *Ghosts 'N Goblins*) had his own Game Boy game called *Gargoyle's Quest*.
- Such was its popularity, *Gargoyle's Quest* spawned two sequels: *Gargoyle's Quest II* on the NES and Game Boy and *Demon's Crest* for the SNES.
- A mini-game version of *Ghosts 'N Goblins* appears in *SNK Vs. Capcom: Match Of The Millennium*.
- Other Capcom games that Arthur has appeared in include *Cannon Spike*, *Marvel Vs. Capcom* and *Namco X Capcom*.
- The SuperGrafx port of *Ghouls 'N Ghosts* makes up a fifth of the console's library.
- The Game Boy Advance version of *Super Ghouls 'N Ghosts* features a new Arranged mode that consists of redesigned levels from the Mega Drive and Super Nintendo games.

Capcom's *Ghosts 'N Goblins* series is easily one of the toughest franchises around and has an insane difficulty factor that will test even the most seasoned gamer. However, despite the *Ghosts 'N Goblins* franchise's complexity there are many reasons why you'll want to progress through the tough as granite levels.

One of the most compelling reasons for playing through this ridiculously hard franchise is its great level and creative sprite design. While the series by its very nature is dark and overbearing, the same can't be said for its cartoonish visuals, which juxtapose well against the many macabre locations Arthur finds himself in.

He may not be as iconic a figure as Mario or Sonic, but Arthur remains instantly recognisable for many gamers, whether he's clad head to toe in armour or simply running around in his boxers. The same can also be said for Arthur's foes, particularly those from *Super Ghouls 'N Ghosts*, where the franchise's cartoony villains really came of age.

So here then are some of the best pixel monstrosities to ever appear in a videogame. How many of them do you remember vanquishing?





Arthur First Appearance: *Ghosts 'N Goblins*

Princess Prin Prin First Appearance: *Ghosts 'N Goblins*

Magician First Appearance: *Ghouls 'N Ghosts*

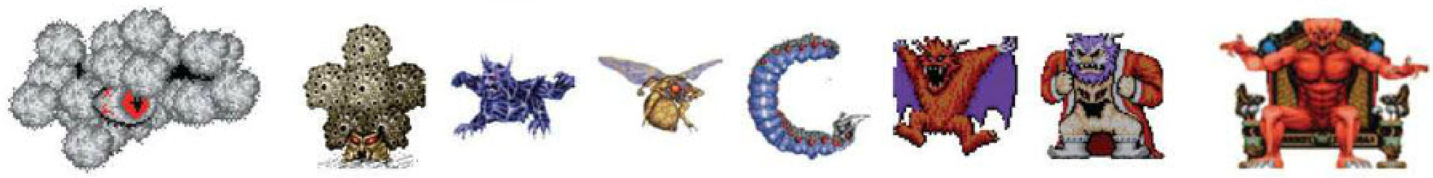
Jester First Appearance: *Super Ghouls 'N Ghosts*

Dragon First Appearance: *Ghosts 'N Goblins*

Cyclops First Appearance: *Ghosts 'N Goblins*

Shielder First Appearance: *Ghouls 'N Ghosts*

Hydra First Appearance: *Super Ghouls 'N Ghosts*



Gassuto First Appearance: *Ghouls 'N Ghosts*

Plated Barnacle First Appearance: *Super Ghouls 'N Ghosts*

Ice Demon First Appearance: *Super Ghouls 'N Ghosts*

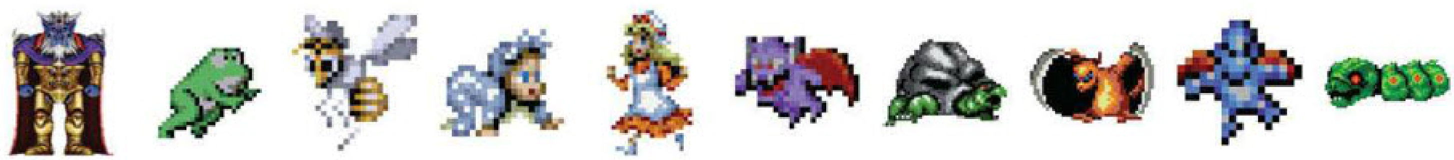
Beezlebub First Appearance: *Ghouls 'N Ghosts*

Pulsating Worm First Appearance: *Super Ghouls 'N Ghosts*

Satan First Appearance: *Ghosts 'N Goblins*

Lucifer First Appearance: *Ghosts 'N Goblins*

Loki First Appearance: *Ghouls 'N Ghosts*



Sardius First Appearance: *Super Ghouls 'N Ghosts*

Frog Form First Appearance: *Ghosts 'N Goblins*

Bee Form First Appearance: *Super Ghouls 'N Ghosts*

Baby Form First Appearance: *Super Ghouls 'N Ghosts*

Maid Form First Appearance: *Super Ghouls 'N Ghosts*

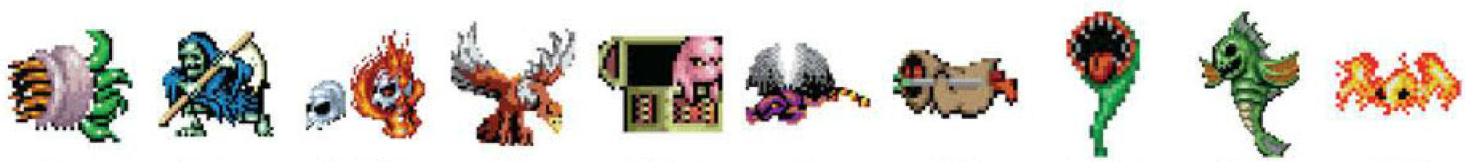
Little Devil First Appearance: *Ghosts 'N Goblins*

Mutant Turtle First Appearance: *Ghouls 'N Ghosts*

Tornado Weasel First Appearance: *Ghouls 'N Ghosts*

Blue Imp First Appearance: *Ghosts 'N Goblins*

Ghoul Snake First Appearance: *Ghouls 'N Ghosts*



Anemone First Appearance: *Super Ghouls 'N Ghosts*

Grim Reaper First Appearance: *Ghouls 'N Ghosts*

Flaming Skull First Appearance: *Super Ghouls 'N Ghosts*

Vulture First Appearance: *Ghouls 'N Ghosts*

Box Ghost First Appearance: *Super Ghouls 'N Ghosts*

Wasp First Appearance: *Ghouls 'N Ghosts*

Wraith First Appearance: *Ghosts 'N Goblins*

Eyeball Plant First Appearance: *Ghouls 'N Ghosts*

Ghoul Fish First Appearance: *Super Ghouls 'N Ghosts*

Fire Bat First Appearance: *Ghouls 'N Ghosts*



Carnivorous Plant First Appearance: *Ghouls 'N Ghosts*

Gargoyle First Appearance: *Super Ghouls 'N Ghosts*

Crow First Appearance: *Ghosts 'N Goblins*

Cerebus First Appearance: *Ghouls 'N Ghosts*

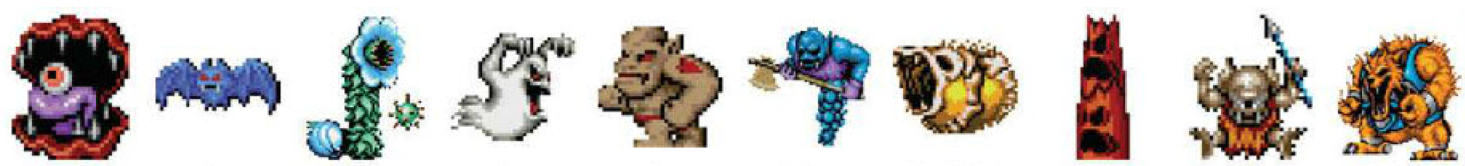
Ant Lion First Appearance: *Ghouls 'N Ghosts*

Loki's Mud Armor First Appearance: *Ghouls 'N Ghosts*

Green Imp First Appearance: *Ghouls 'N Ghosts*

Skull Flower First Appearance: *Ghouls 'N Ghosts*

Skull Flowerhead First Appearance: *Ghouls 'N Ghosts*



Oyster Eye First Appearance: *Super Ghouls 'N Ghosts*

Bat First Appearance: *Ghosts 'N Goblins*

Spore Flower First Appearance: *Super Ghouls 'N Ghosts*

Ghost First Appearance: *Super Ghouls 'N Ghosts*

Ogre First Appearance: *Ghosts 'N Goblins*

Axe Ogre First Appearance: *Super Ghouls 'N Ghosts*

Blowfish Ghoul First Appearance: *Ghouls 'N Ghosts*

Golem First Appearance: *Ghosts 'N Goblins*

Goblin First Appearance: *Super Ghouls 'N Ghosts*

Fire Ogre First Appearance: *Super Ghouls 'N Ghosts*

apple II

Although eventually eclipsed by Commodore and Atari machines, the Apple II began its life by revolutionising home gaming in the USA. Craig Grannell finds out about the platform's origins and talks to former Apple II developers about what made the machine so great for gaming.

Specifications

Year released: 1977

Original price: $1,298 for 4K version (board only for $598); $2,638 for 48K version

Buy it now for: £50+ for an Apple II+

Processor: MOS 6502 (1 MHz)

RAM: 4KB (expandable to 48KB)

ROM: 12KB

Display: 280x192 (4 colours/6 colours in rev 1 motherboard); 40x40–48 (16 colours)

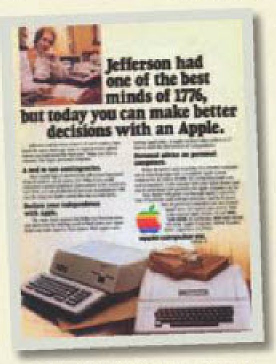
Sound: One-channel

Associated magazines: *inCider, A+, Nibble, Softdisk, Juiced.GS* (still in print)

Why the Apple II was great: The Apple II boasted a number of firsts, including its prebuilt nature, colour graphics, sound, paddles and game commands in BASIC. Although the line itself eventually stumbled and fell, the original Apple II lived on in terms of inspiring products from myriad competitors. The Apple II also enabled an entire generation of primarily US-based gamers and programmers to start making their own games, and their creations have gone on to be hugely influential and important.

It's fair to say that if we ignore Apple's relatively recent onslaught on the games industry via iPhone OS devices and the App Store, few would consider the Cupertino-based company one that makes products for videogamers, let alone an industry leader in the field.

Even modern Apple Mac owners lack choice when it comes to games, often having to put up with late, expensive, imperfect ports of old Windows titles, or the odd indie creation that trickles through – a situation that hasn't changed a great deal in over two decades. But things weren't always this way: for a brief, glorious time, Apple had one of the best home gaming systems around, courtesy of the Apple II. It wasn't a hugely powerful piece of hardware, although it was impressive for the time, but the Apple II caught the imagination of programmers and fans of videogames – then a very new concept – some of which subsequently became major players in the industry.

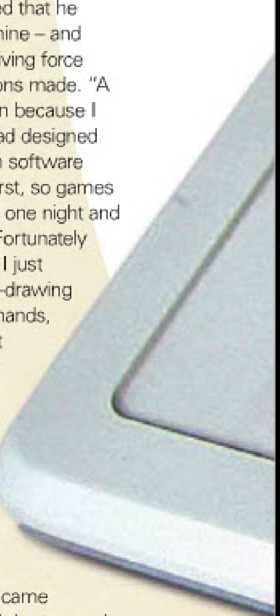


» The Apple II and III in harmony in an ad. Off-camera, they were punching each other's expansion slots in.

Apple's beginnings were in the hobbyist market. This mentality would be retained for the first revision of the Apple II, before a larger Apple's overtly corporate-minded direction resulted in the ill-fated decision to ignore the people who first supported the company and focus entirely on business. But at the start, it was a tale of two Steves: Jobs and Wozniak. Even in his early 20s, Jobs was a shrewd businessman, tactician and visionary, and Wozniak was an engineering genius. An oft-told story of the pair involves *Breakout*: Atari founder Nolan Bushnell offered $100 for every chip that could be reduced from the circuit board. Jobs agreed to split the bonus with Wozniak, who dropped *Breakout*'s chip count by 50, but nonetheless ended up with just a few hundred bucks, Jobs allegedly pocketing the rest. (Wozniak has since stated that he "gladly would have designed the *Breakout* game for Atari for free, just to do it", and admits that he was hurt when he found out about the "dishonesty", although he's over that now.)

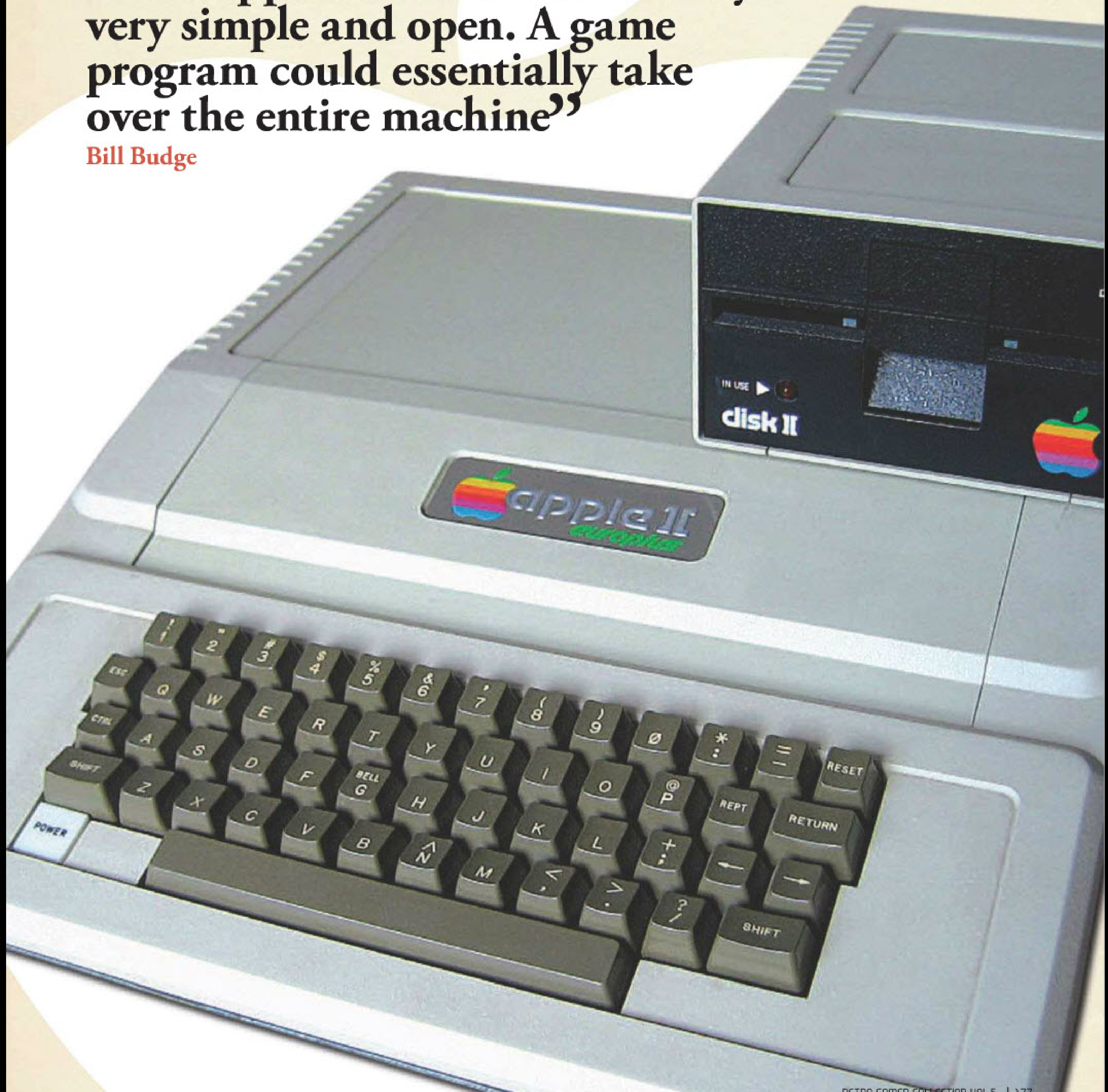
In 1976, mostly in Jobs' garage, history was made: the Apple I was created and offered to HP. It declined, and Apple Computer was born. The Apple I was the first single-board computer, sold fully assembled – users had to supply a keyboard, case, monitor and power supply – and innovated by relying on things that we now take for granted: keyboard input and the use of a television for output, rather than the tried-and-tested toggle switches and LEDs that its contemporaries used. For the day, this was impressive stuff, but Wozniak wasn't satisfied.

In Jack Connick's 1986 feature for *Call-A.P.P.L.E.* magazine '…And Then There Was Apple', Wozniak revealed that he wanted a faster, more colourful and noisier machine – and the Atari videogame he'd worked on was the driving force behind many of the technical decisions made. "A lot of features of the Apple II went in because I had designed *Breakout* for Atari. I had designed it in hardware. I wanted to write it in software now," he said. Colour was added first, so games could be programmed: "I sat down one night and tried to put [*Breakout*] into BASIC. Fortunately I had written the BASIC myself, so I just burned some new ROMs with line-drawing commands, colour-changing commands, and various BASIC commands that would plot in colour." Having got a ball to bounce around, Wozniak realised that sound was required and so a speaker was added to the Apple II – something that, he said, wasn't planned, but was "just accidental". Paddles were the next addition, implemented via a simple paddle circuit. "So a lot of these features that really made the Apple II stand out in its day came from a game, and the fun features that were built in were only to do one pet project, which was to program a BASIC version of *Breakout* and show it off," explained Wozniak.



Continuing to effectively design for himself, Wozniak fashioned a computer with a number of firsts – the first machine of its kind to be sold completely assembled; the first boasting a plastic case; the first with colour graphics, hi-res,

"The Apple II was architecturally very simple and open. A game program could essentially take over the entire machine"
Bill Budge



“The Apple II didn’t have the best graphics and sound capabilities, but it was a machine you could push, and that was satisfying”

sound and paddles; the first with BASIC game commands and the BASIC in ROM – and only the Apple I had beaten it to the punch regarding using a home TV as a monitor. Although the machine's specs – four colours (six after the first revision, adding orange and blue to black, white, green and violet), one-channel sound via a click-emitting toggle circuit, 4KB of RAM by default – would soon be eclipsed and seem restrictive compared to rival machines released in the early Eighties, they were instrumental in sparking the imagination of people who would go on to work wonders with the platform. "There were several microcomputers available in 1979, and my friend, Andy Hertzfeld, had just bought an Apple II and was doing interesting programming on it," recalls Bill Budge, creator of landmark Apple II pinball simulators *Raster Blaster* and *Pinball Construction Set*.

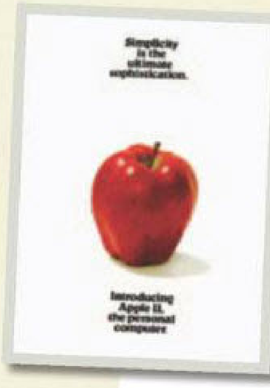
"The fact that it had colour swayed me from buying a TRS-80 or one of the other small business machines that were coming to market."

Budge wasn't the only person seduced by the Apple II's graphics capabilities. "My parents bought me an Apple II when I was 15, since we used them at school, and I wanted to produce animations," recalls Jordan Mechner. "I knew from making those animations that the computer was powerful, and that it was capable as a games machine, and so I created *Karateka*. I'd been learning about silent film techniques in my history of cinema classes, and so I needed to produce something that was visually amazing. The Apple II was equipped to do that." Although Mechner reckons that many felt that the Apple II was a dying platform by the time he started producing *Prince Of Persia*, it nonetheless still worked for him at the time: "The Apple II was a platform I understood. It was a lovely machine."

On experiencing Apple II games today, it's interesting to note that many play better – despite looking worse – than ports made to other platforms. It seems this, along with the Apple II's general suitability regarding gaming, was down to the level of control it afforded. "The Apple II was architecturally very simple and open. A game program could essentially take over the entire machine, and clever people could make the machine do amazing things that probably weren't foreseen by Wozniak and Apple," thinks Budge, who fondly remembers the machine's processor: "The Apple II's 6502 wasn't very fast, but it was simple. To get the highest speed, self-modifying code was necessary. There were no penalties for this technique like there are now, and this added a very interesting dimension to game design, which has been largely lost with modern hardware."

Choplifter creator Dan Gorlin has similar memories: "One thing I really enjoyed about the Apple II was that you had absolute control over timing. Everything was real-time – no hardware interrupts, no other programs running – so you could polish the timing of things perfectly."

John Romero, whose first published videogame was on the Apple II, in the form of a *Scout Search* listing in *inCider* magazine, suggests that this openness, combined with any perceived



» And you thought modern Apple print adverts were minimal. Here's how the Apple II was introduced.

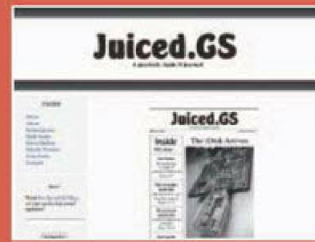
Community



A2Central

a2central.com

Describing itself as "your total source for Apple II computing", A2Central is the best place to go for current news on Apple's platform. Along with various links to user groups and a developer directory, the site also backs the last surviving



Juiced.GS

juiced.gs

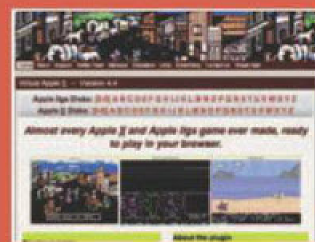
As already noted, *Juiced.GS* is the last surviving Apple II publication, and, having recently celebrated its 15th anniversary, overtook *Softdisk* (1981-95) as the longest-running Apple II periodical. It now has a quarterly schedule and back issues are available in annual 'volumes'.



Apple II History

apple2history.org

Based around a series of articles printed in the early Nineties in a Nebraska newsletter, this site provides an in-depth history and analysis of the Apple II platform, including hardware, software, related publications and more. For offline reading, visit the downloads section for a text copy.

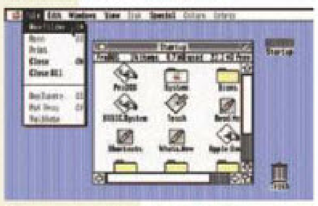


Virtual Apple II

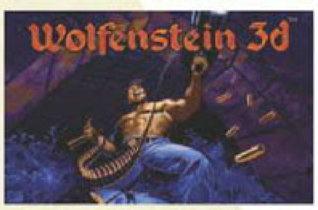
www.virtualapple.org

The Virtual Apple II website enables you to play thousands of Apple II games using your browser. To start playing, simply install the plug-in, which works on Windows and Mac OS X and is compatible with Firefox, Safari and Internet Explorer, select a disk, and load a game.

» The 16-bit Apple IIGS boasted an interface akin to a colour Mac, but the system retained backwards compatibility with the original Apple II.



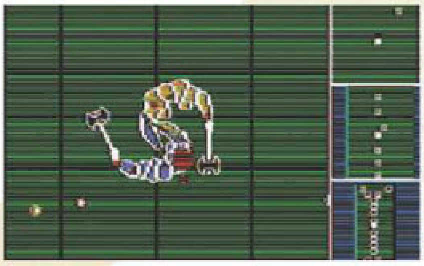








» [Apple II] The superb *Stellar 7* recreated the *Battlezone* coin-op inside the humble Apple II, and then added many more enemies and missions.

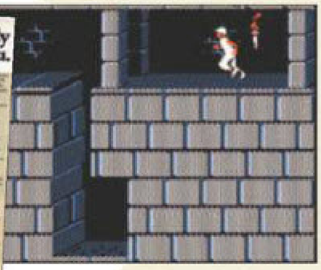




» [iPhone] With the likes of *Lemonade Stand*, *Mystery House*, *Oregon Trail* and *Transylvania* on the App Store, Apple gaming comes full circle.





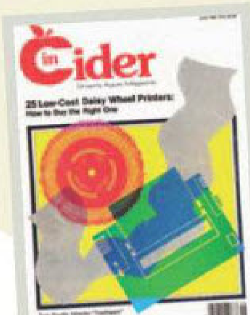


» (left) A revision of the original Apple II ad, amended after accusations of sexism. See **kelleyad.com/histry.htm** for more on the incident.

limitations, was hugely beneficial to Apple II gaming, providing a uniqueness lost on more advanced platforms.

"The C64 and Atari 800 soon became superior for action games because of built-in hardware for graphics and sound, but the problem I saw on those systems was that games tended to look similar because they were all rendering through the same API, the same graphics chip," he says. "The Apple II had no hardware for those things and so programmers had to invent their own ways of getting graphics on the screen, and these different approaches led to a vast array of rendering techniques that could provide you with unique identification of a programmer. I could look at a game and be able to tell you who wrote it because of his technique. That's one striking way that the Apple II allowed you to express your creativity: with a very open canvas."

In hindsight, the only real criticism of the system that developers have regards sound. Budge calls the audio on the Apple II "extremely primitive", adding: "It was really hard to make sounds because there were no timers or interrupts. The only way to make sound was to toggle the speaker bit in various places in your program's main loop." However, he says that in some areas the hardware bettered its rivals for years to come: "For example, the Apple II had the fastest and most reliable floppy disk of any early home machine, which was great for distributing games. On Atari and Commodore, disk manufacture was a nightmare, and the drives were extremely slow."



» The June 1984 issue of *inCider* magazine, which included John Romero's first published game, *Scout Search*.

Over the years, Apple's hardware continued to evolve. The Apple II+ (sold in Europe as the Apple II Europlus) boasted improved start-up and BASIC, included 48KB of RAM as standard, and had enhanced graphics capabilities. However, between 1979 and 1983, no new hardware appeared. During that time, internal politics and squabbling caused Apple to drop the ball with the botched, business-focused Apple III, and it took a surprisingly hostile attitude towards the consumer market and hobbyists that had made the Apple II a success. Only when Apple finally twigged that the Apple II was stubbornly refusing to die did the IIe project kick into gear, eventually producing an impressive low-cost machine – due to using a quarter of the integrated circuits of the II+ – with 80-column display capabilities, modifier and cursor keys, an improved case, and another RAM bump. The compact IIc (integrated floppy drive, 128KB RAM) followed in 1984, before the line was radically revised with the Apple IIGS, essentially a powerful and highly capable next-generation 16-bit response to the Amiga and Atari ST, retaining backwards compatibility with older Apple II software via the Mega II: an entire Apple IIe's functionality on a chip.

But this was the beginning of the end for the Apple II line. No one at Apple was willing to champion the platform, instead concentrating on products that the company itself had led, such as the Macintosh. Left to sell itself, the IIGS initially outperformed the Mac, but then stumbled and limped on until the early Nineties, when it was quietly put down by Apple to stop perceived competition with its own Macintosh LC.

Anyone with a love for videogames – players and creators alike – had long since seen the writing on the wall, and had mostly deserted the ailing platform. Although the likes of *Zany Golf* and *The Immortal* originated on the Apple IIGS, the platform that had practically been responsible for founding home computer gaming in the USA was resigned to receiving an ever-dwindling number of ports from rival systems. "Things were moving fast during that time," remembers Gorlin. "The Apple II was king of the market for years, but what initially made it good for games was its primitive nature. Naturally, then, it was soon replaced by better options for developers, and they moved on accordingly, as did the gamers."

Fast-forward to 1996 and Steve Jobs made a triumphant return to Apple, reversing the company's fortunes – at the time, it was suffering from record losses and a confused product line. Much of this success was down to re-embracing the consumer space that Apple had shunned for so long. While we'll never know if the Apple II could have survived to the present day in some form or remained a major player in gaming had the company that created it actually offered some support, its spirit lives on in the innovation of modern Apple consumer products, and the energy and novelty of myriad iPhone games, a number of which are conversions of or tributes to much-loved Apple II classics. And for the likes of Mechner, Gorlin, Romero and Budge, and many gamers of the day, the Apple II will forever represent a magical time in home gaming that will never be forgotten.

Instant Expert

- **When the first** advert for the Apple II ran, Steve Jobs got a complaint from a woman in Oregon, who considered it sexist. It was revised to show a woman using a sophisticated display and the male account manager using a low-res version.
- **Apple's famous 'rainbow'** logo, designed by Rob Janoff, was in part designed to showcase the Apple II's colour graphics capabilities. It replaced a fussy illustration designed by Steve Jobs and Apple co-founder Ronald Wayne, and its silhouette still forms the basis of current Apple logos.
- **According to Steve Wozniak**, he was the sole designer of the 'computer' part of the Apple II. Allen Baum contributed some debugging software, Steve Jobs dealt with the machine's appearance, and Rod Holt designed the power supply.
- **Apple II creator** Steve Wozniak was involved in a plane crash in early 1981, which resulted in short-term memory loss. Wozniak spent some of his free time playing videogames on the Apple II, which aided his recovery.
- **The Apple II's original** Integer BASIC was superseded by Applesoft BASIC, which offered floating-point calculations. The name was derived from 'Apple' and BASIC supplier 'Microsoft'.
- **The Apple III,** released in 1980, was intended to succeed the Apple II, and resolutely focused on business users. To stop overlap between the systems, hardware was added to prevent Apple II emulation mode using Apple III advanced features, and Apple II emulation was also inaccurate. The machine was a flop, and the Apple II line outlived it. **apple3.org** has more on the platform.

Special thanks to Tom Charlesworth for kindly loaning the Apple II

apple II Perfect Ten Games


01

THE BARD'S TALE

» **RELEASE:** 1985
» **PUBLISHER:** MICHAEL CRANFORD
» **BY THE SAME PUBLISHER:** DONKEY KONG (APPLE II)

01 **As with the** excellent *Ultima* series, *The Bard's Tale* takes inspiration from TSR's *Dungeons & Dragons*. Here, though, the influences are far more pronounced, with the player able to take control of a group of up to six adventurers whenever he wants to go dungeon-delving.

Famed for its impressive 3D visuals and excellent animated portraits – although combat itself is text-based – *The Bard's Tale* is a magnificent adventure that offered a huge amount of choice to the player and improved immeasurably on previous dungeon crawlers. Originally released on the Apple II and published by EA, it went on to be ported to numerous home computers and spawned three sequels and a construction set.

PINBALL CONSTRUCTION SET

» **RELEASE:** 1983
» **PUBLISHER:** BILL BUDGE
» **BY THE SAME PUBLISHER:** RASTER BLASTER

02 **Bill Budge's 1983** effort holds the record for being the first construction game to appear on any home system. Following on from his popular pinball effort *Raster Blaster*, *Pinball Construction Set* featured an amazingly easy control system that made creating tables an absolute breeze. Objects could simply be dragged and dropped around the screen, while the already-impressive physics could be tweaked. Another fantastic touch was the ability to save your created tables to a floppy disk and trade them with friends. It also happened to play a great game of pinball. The game was honoured at the 59th annual Technology & Engineering Emmy Awards in 2008.


02

THE OREGON TRAIL

» **RELEASE:** 1978
» **PUBLISHER:** MECC
» **BY THE SAME PUBLISHER:** AMERICAN GENERATION X

03 **Unlike the other** titles featured in this top ten, *The Oregon Trail* is an educational game. Don't let that put you off, though, for like the Beeb's *Granny's Garden*, it's a highly entertaining piece of work. Following the famous trail, your travellers can die, and you must hunt for food by typing in words as fast as you can. Due to its popularity across American schools, it was re-released in 1985 with greatly improved visuals and expanded hunting, with the ability to use a rifle to gun down targets.

The Oregon Trail was originally built on a mainframe computer before it appeared on the Apple II.

KARATEKA

» **RELEASE:** 1984
» **PUBLISHER:** JORDAN MECHNER
» **BY THE SAME PUBLISHER:** PRINCE OF PERSIA

04 **Before *Prince Of Persia*** became a huge success there was *Karateka*, a surprisingly refreshing fighter that made its debut on the Apple II. Designed by Jordan Mechner while he was still attending university, *Karateka* features many of the blueprints that would eventually mould *Prince Of Persia*. Animation is wonderfully fluid; combat, while simplistic, works extremely well; and there's an epic feel that's missing from many similar fighters. *Karateka*'s most impressive trick, though, is how it was able to tell a convincing story through animation and gameplay. An utterly captivating experience.

CHOPLIFTER

» **RELEASE:** 1982
» **PUBLISHER:** DAN GORLIN
» **BY THE SAME PUBLISHER:** AIRHEART

05 **If you want** to know just what Apple's machine was capable of, *Choplifter* is a perfect example. Amazingly slick with polished visuals, it's a startlingly good blaster that is beautifully balanced.

While it initially appears to be a straightforward shoot-'em-up at its core, the lack of an actual scoreboard means that you'll spend just as much time working out how to save hostages as you will trying to blast the enemies that are intent on stopping you. Immediately accessible yet extremely hard to master, *Choplifter*'s quick gameplay and instant appeal saw it translated into a Sega coin-op in 1985.



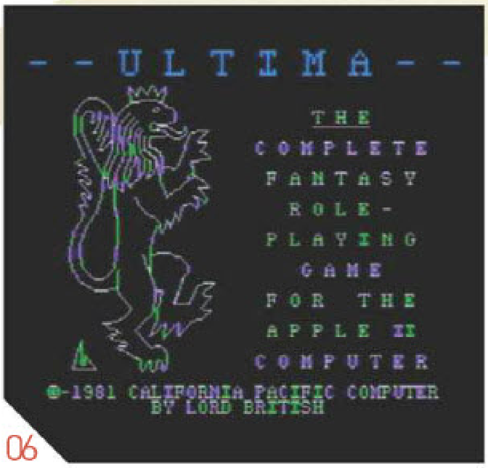
03


04



05

Apple's 8-bit computer offered an astonishing variety of choice when it came to games and was also the birthplace of many popular franchises



06


07


08

ULTIMA I: THE FIRST AGE OF DARKNESS

» **RELEASE:** 1981

» **PUBLISHER:** RICHARD GARRIOTT

» **BY THE SAME PUBLISHER:** CITY OF HEROES

06 **With its dramatic** box art, *D&D* influences and atmospheric visuals, it's little wonder that *Ultima* became such a success.

Its plot – an evil wizard plots to take over the world – may seem trite, but it's an immersive experience. It obviously drew influences from popular role-playing games and the works of Tolkien, but Garriott's attention to detail gave players an experience unlike anything else.

Interestingly, it was remade for the Apple II in 1986 and not only enhanced the visuals but also sped up the gameplay considerably.

LODE RUNNER

» **RELEASE:** 1983

» **PUBLISHER:** DOUGLAS E SMITH

» **BY THE SAME PUBLISHER:** BODY HARVEST

07 **We've lost count** of the numerous iterations of *Lode Runner*. In fact, the only thing our addled brains can remember is that the Apple II version felt like the arcades had come home when we first laid eyes on it.

Like the best Apple II titles, *Lode Runner* impresses because it feels so polished when placed against many of its peers. While the visuals are on the tiny side, it allowed Smith to create some truly memorable levels that still prove challenging today.

Such was its popularity, it was ported to the arcades a year later and received countless conversions.

PRINCE OF PERSIA

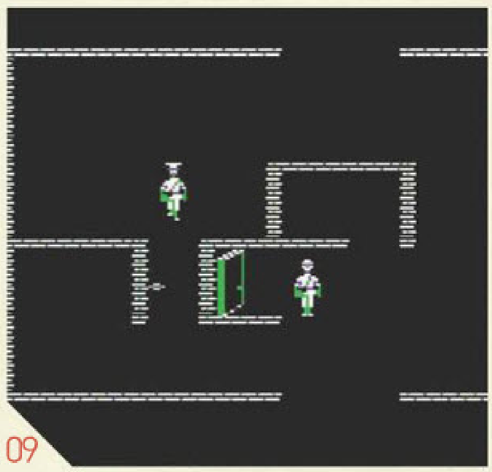
» **RELEASE:** 1989

» **PUBLISHER:** JORDAN MECHNER

» **BY THE SAME PUBLISHER:** THE LAST EXPRESS

08 **Released five years** after *Karateka, Prince Of Persia* was a revelation to Apple II owners.

Inspired by *Raiders Of The Lost Ark*, Mechner's masterpiece was a fantastic fusion of hardcore platforming, exploration and exhilarating combat that captured the spirit of adventure flicks. A sensation thanks to its incredibly slick visuals – Mechner used rotoscoping of his brother leaping and running around to pull off the spellbinding animation – *Prince Of Persia* turned into a phenomenal success, and it's little wonder that so many gamers continue to love the Prince's exploits.


09

BEYOND CASTLE WOLFENSTEIN

» **RELEASE:** 1984

» **PUBLISHER:** MUSE SOFTWARE

» **BY THE SAME PUBLISHER:** RESCUE SQUAD

09 **Hideo Kojima is** commonly recognised as creating the world's first video stealth game, but the kudos rightly belong to Apple II maestro Silas Warner.

Released three years after *Castle Wolfenstein*, which itself predates *Metal Gear* by six years, Warner's sequel ups the stealthy gameplay by introducing plenty of new mechanics that greatly improve an already-excellent game. A knife can be used to pull off stealthy kills, while there is more focus on impersonating guards and using passes to progress deeper into Hitler's bunker.

Aurally it's also impressive – as you'd expect from the creator of The Voice – further deepening the atmosphere of exploring the large game world.

TAIPAN!

» **RELEASE:** 1982

» **PUBLISHER:** AVALANCHE PRODUCTIONS

» **BY THE SAME PUBLISHER:** N/A

10 **Not to be** confused with either Ocean's interesting 8-bit adventure nor Australia's venomous snake, *Taipan!* is an intriguing turn-based strategy game that offers a surprising amount of depth.

Loosely based on James Clavell's novel *Tai-Pan*, Mega-Micro Computers' effort placed you in the shoes of a trader who must make his fortune via trading and piracy on the high seas. It's a truly enjoyable strategy title that's made all the better because you have so much choice when you're playing. Your ship can be upgraded, loans can be arranged, extortionists must be avoided, and there are seven distinct ports to trade with. A dazzling effort that remains highly enjoyable.



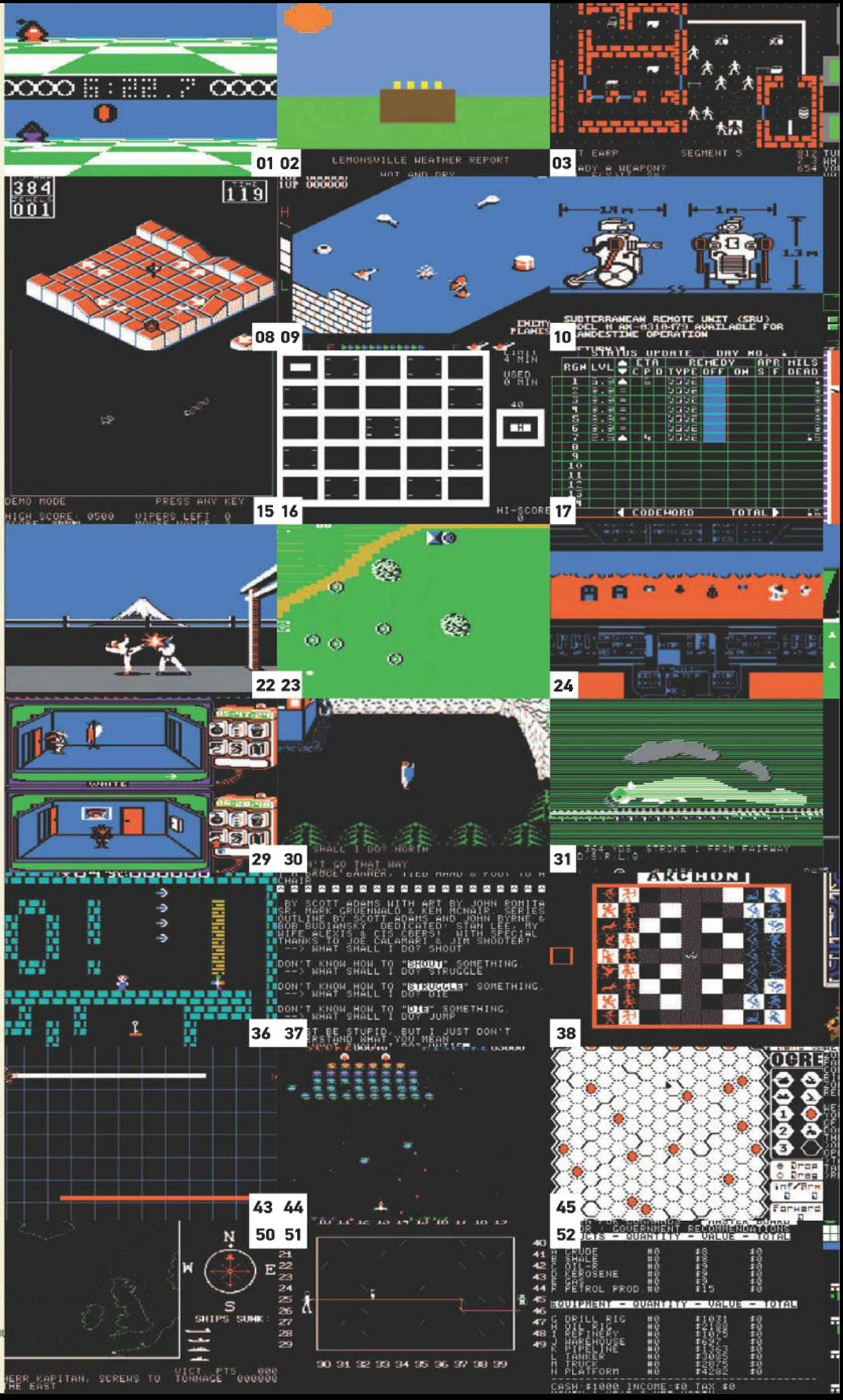
10

apple II

and the rest...

Text adventures, arcade conversions, platformers, flight simulators – the Apple II covered all these genres and more. Here are just a few of the many titles released for it.

- **01** BALLBLAZER
- **02** LEMONADE STAND
- **03** SIXGUN SHOOTOUT
- **04** DUNGEON
- **05** STAR TREK
- **06** FROGGER
- **07** HELICOPTER RESCUE
- **08** SPINDIZZY
- **09** ZAXXON
- **10** HACKER
- **11** SPACE VIKINGS
- **12** CRUSH, CRUMBLE AND CHOMP!
- **13** GAUNTLET
- **14** RAID OVER MOSCOW
- **15** VIPER
- **16** PANDEMONIUM
- **17** EPIDEMIC
- **18** IMPOSSIBLE MISSION
- **19** EVOLUTION
- **20** REPTON
- **21** TAPPER
- **22** KARATEKA
- **23** XEVIOUS
- **24** SUPER HUEY
- **25** F15 STRIKE EAGLE
- **26** ROAD RALLY USA
- **27** DEATH SWORD
- **28** CHAMPIONSHIP LODE RUNNER
- **29** SPY VS SPY
- **30** CASTLE OF DARKNESS
- **31** GOLF'S BEST
- **32** TITAN EMPIRE
- **33** JET PACK
- **34** RUN FOR IT
- **35** BEYOND CASTLE WOLFENSTEIN
- **36** SARACEN
- **37** THE HULK
- **38** ARCHON
- **39** PIPE DREAM
- **40** T-REX: THE DINOSAUR SURVIVAL ADVENTURE
- **41** ONE ON ONE
- **42** BATTLE OF HOTH
- **43** TRON
- **44** ALIEN TYPHOON
- **45** OGRE
- **46** ZORK I: THE GREAT UNDERGROUND EMPIRE
- **47** FIGHT NIGHT
- **48** THE BARD'S TALE
- **49** NIBBLER
- **50** FATHOMS FORTY
- **51** LAZER MAZE
- **52** OIL RIG
- **53** TROLLS AND TRIBULATIONS
- **54** CHOPLIFTER
- **55** ABM
- **56** KORONIS RIFT





04
05
06
07
Fuel
Rescued
11
12
HEALTHY
HDG: WEST
NORMAL
PAW EMPTY
HEAD TILT:
13
Thor Warrior
Questor Elf
Thyra Valkyrie
Merlin Wizard
14
18
19
LIVES 5
20
WARNING
21
25
SPD:400 ALT:9600
MACH:6 HDG:225 RPM:100%
GUN
26
zoo's your clue to this southern CA city.
I-70
27
DEATH SWORD
28
HELLO
32
MANUAL CONTROL
COMMAND ?
33
SCORE
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00000
00000
A1
35
39
L: 1 SCORE: 150 DIST:10
40
Speed
T.rex
Time
41
42
SCORE 0
HI-SCORE 0
46
THE GREAT UNDERGROUND EMPIRE
COPYRIGHT (C) 1980 BY INFOCOM, INC. ALL RIGHTS RESERVED.
WEST OF HOUSE
YOU ARE STANDING IN AN OPEN FIELD WEST OF A WHITE HOUSE, WITH A BOARDED FRONT DOOR.
THERE IS A SMALL MAILBOX HERE.
OPEN MAILBOX
OPENING THE MAILBOX REVEALS A LEAFLET.
TAKE LEAFLET
TAKEN.
RETRO GAMER RULES!
47
Health
Energy
DAZ JONES
Dip Stick
21
2:29
0
48
The Bard's Tale
By Michael Cranford
(c) 1985
Interplay Productions
49
WAVE
TIME
53
54
55
BOS
NYC
PHL
BAL
WSH
ENEMY 2
8 ABM'S
56
STAY HERE
SAME RIFT
NEXT RIFT
SKIP ONE

THE ULTIMATE HERO

A Complete History of Sabreman

Although Miner Willy is arguably the Spectrum's best known videogame character, Ultimate's intrepid explorer Sabreman nevertheless made his own huge impact on Sir Clive's machine. Stuart Hunt investigates the truths and myths behind Ultimate's most enduring mascot

Trying to uncover any information about the *Sabreman* series, Ultimate Play The Game, or the Stamper brothers has always proven incredibly difficult. The brothers have always been famously forward when it comes to stepping away from press attention, only giving the occasional rare interview to very lucky and select publications – most notably *Crash*, for whom the brothers had a bit of a soft spot – but giving a charmingly frank and reasonable explanation why it is that they shirk the limelight. The reason boils down to two things: the first is time – perfectly understandable, of course, seeing that for many years Tim and Chris were managing director and technical director, respectively, for one of the biggest videogame studios in Britain; and the second is that the brothers have always felt that their games should do the talking. But while the Stampers' silence is frustrating for anyone trying to glean information about their games, it was this air of mystique surrounding the company that drove the success of Ultimate and its games. And no Ultimate franchise demonstrated this thinking better than the *Sabreman* series.

In 1980, Tim Stamper, age 21, was studying physics and electronics at Loughborough University. After becoming interested in the growing advent of micro technology, he decided to quit his course and took a number of jobs working on arcade circuit boards for various firms. When Chris asked his brother one day to assist him with one of his arcade projects, Tim was immediately hooked. And with the help of Tim's girlfriend (now wife), Carol Ward, and college friend John Latchbury, the brothers decided to form the Leicestershire-based company Ashby Computers and Graphics (ACG) in the exotic-sounding town of Ashby-de-la-Zouch. Armed with a small team of software engineers, ACG started



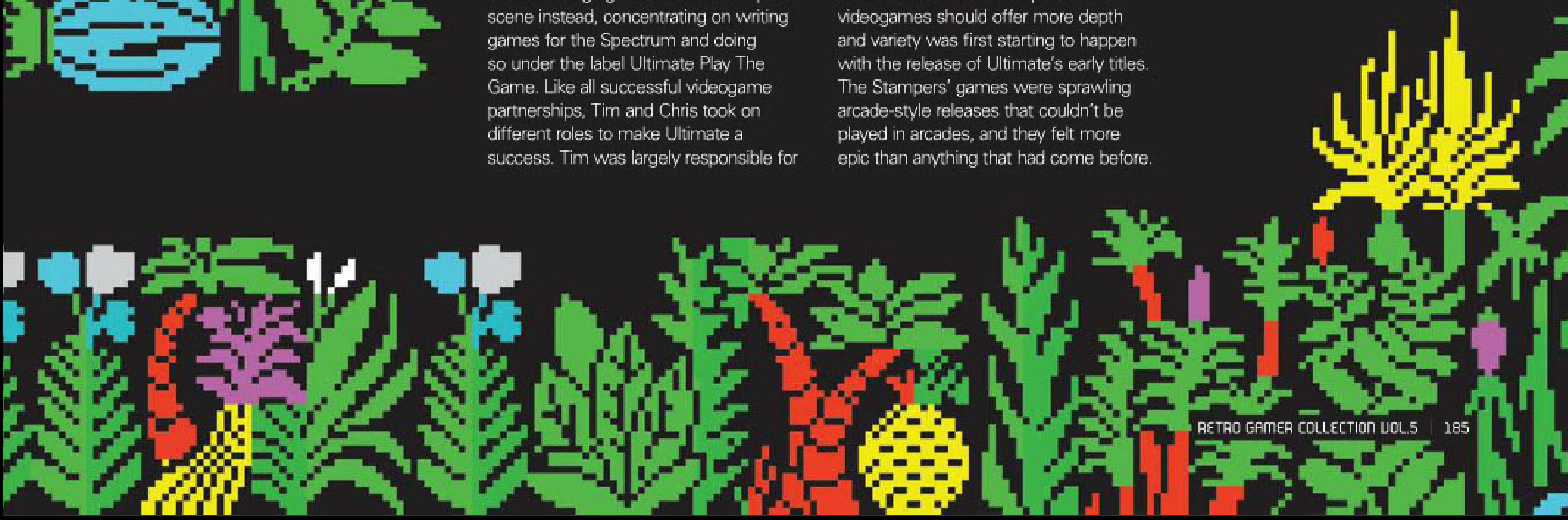




developing arcade conversion kits for license to various companies. In terms of *Sabreman*'s history, probably their most notable arcade project was the quirky 1983 title *Dingo*, which the Stampers produced in collaboration with Japanese developer Jaleco. Assuming the role of something that resembled a koala, your mission was to collect all the fruit scattered on colourful single-screen levels while avoiding things that looked like hopping pink unicorns – though it's feasible that these could be the titular dingos, as *Sabre Wulf* later showed that the Stampers weren't averse to giving enemies top billing. *Dingo* played a lot like *Pac-Man* but had visuals awash with the same intricate detail and colour that we would later associate with the tropical screens in *Sabre Wulf*.

Eventually, though, the Stampers decided that coin-ops weren't marketable and so focused their efforts on the emerging British home computer scene instead, concentrating on writing games for the Spectrum and doing so under the label Ultimate Play The Game. Like all successful videogame partnerships, Tim and Chris took on different roles to make Ultimate a success. Tim was largely responsible for the in-game graphics and packaging illustrations, while Chris, the older of the two, took on most of the coding and programming duties.

Ultimate's first commercial hit came in 1983 with the release of the 16K Spectrum game *Jetpac*. This was shortly followed by the bug-zapping title *Pssst* and the seminal adventure maze smash *Atic Atac*. In a time when most home computer games were rudimentary variants of arcade titles, the trend that home computer and videogames should offer more depth and variety was first starting to happen with the release of Ultimate's early titles. The Stampers' games were sprawling arcade-style releases that couldn't be played in arcades, and they felt more epic than anything that had come before.



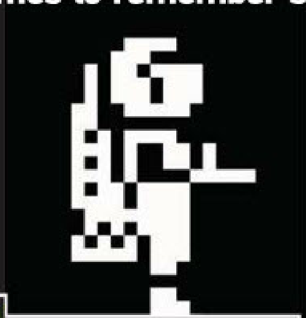
Rare Heroes

We take a look back at Rare's impressive portfolio of games to remember some more of its heroes

Battletoads

Spawning five games, all famed for their humour, variety and insane difficulty, the Battletoads – Rash, Pimple and Zitz – proved a popular videogame rival to the Teenage Mutant Ninja Turtles, and a great technical and creative showcase for Rare.





Jetman

While very little is known about the character, Jetman was Ultimate's first videogame hero and went on to become a popular gaming character on the Spectrum. His popularity eventually led to him having his own comic strip series in *Crash* magazine.

The Cast of Killer Instinct

Killer Instinct featured a roster of memorable fighters, including a semi-cameo from Sabreman himself (in wulf form). The series remains a popular 2D brawler, and Rare has teased fans with rumours of a third game for years.





Joanna Dark

Rare performed magic once again with the sultry agent Joanna Dark. Not since the arrival of the intergalactic bounty hunter Samus Aran – and it's very likely that she had a big influence on Joanna – had gamers seen such a strong and believable leading lady.

Mr Pants

Originally a crude mascot on Rare's website, the character later received his own GBA puzzler titled *It's Mr Pants*. Originally unveiled as *Donkey Kong Coconut Crackers*, the theme had to be altered following Rare's purchase by Microsoft in 2002.





Banjo and Kazooie

After gamers were left dumbstruck by *Super Mario 64*, Rare matched Nintendo's classic platformer with one of its own. Gorgeous and massive in scope, the original *Banjo-Kazooie* created a popular videogame double act as they worked as a team to solve puzzles.

Diddy Kong

Only Rare could breathe new life into a Nintendo character with such aplomb. *Donkey Kong Country* helped put Rare on the map, bring Donkey Kong back to life, and cement Rare's relationship with Nintendo. Diddy represents an indelible footprint of that relationship.



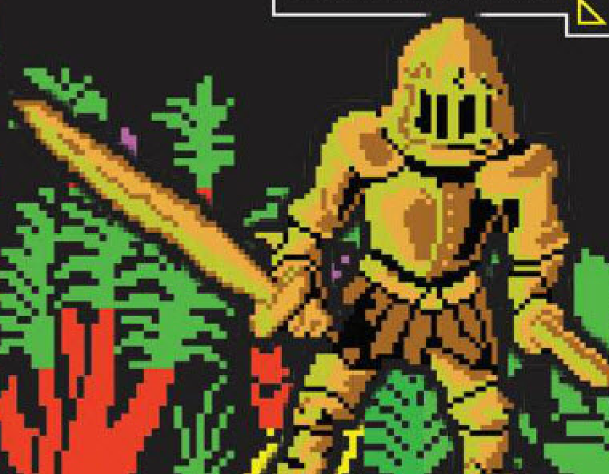


Rattle and Roll

While Rare handled the NES conversion of *Marble Madness*, it had already touched on the isometric puzzle game formula with *Bubbler*. However, it would really surpass itself with *Snake Rattle N Roll*, with its addictive gameplay and surrealist humour.

Kuros the knight

Spanning a series of four games, of which Rare only developed the first and last, *Wizards & Warriors* games were hack-and-slash adventure affairs with Rare's trademark emphasis on collecting things. In each title you assumed the role of the knight Kuros.



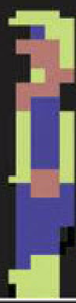


Jet Force Gemini

Jet Force Gemini was an epic third-person action game that borrowed elements from *Sabre Wulf*, *Banjo-Kazooie* and *GoldenEye*. Visually breathtaking, the game split opinion with fans, which is perhaps why Rare has yet to do anything else with the game's heroes.

Sir Arthur Pendragon

While Ultimate favoured the Spectrum, the company produced a number of Commodore 64 titles. The most well-known offerings starred this recurring adventuring aristocrat across a series of action/puzzle games.



Conker

Conker underwent a dramatic transformation for Rare's final N64 title. Originally a cutesy platform hero, Rare decided to rethink the character and turned him into a swearing antihero in an adventure that smacked a little of *Dude, Where's My Car?*.

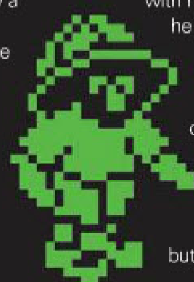


Very quickly Ultimate positioned itself as an important and shining player in Spectrum gaming. While the company did write a number of Commodore-specific titles over the years, the Stampers chose not to handle CPC, MSX, BBC Micro and C64 conversions of their hit Spectrum games, but farm them out to third-party companies instead – most notably *Firebird*, which handled the C64 conversions of *Sabre Wulf* and *Underwurlde*. Speaking to *The Games Machine* in March 1988, Chris Stamper explained why this was.

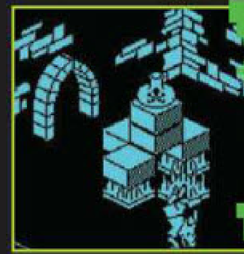
"I never got to know [the C64] that much. You tend to focus on one area, and I think I was a Z80 programmer to start off with, and so I adopted the Spectrum. I had no trouble with 6502 or anything like that – the Nintendo 6502 – but I was working on the Spectrum and there were other people doing the 64."

Tim, who is said to be the more business-minded of the pair, followed up with a slightly more mercantile reasoning: "We were interested in producing original games, and people wanted us to produce original product, so work for the 64 was really a job for somebody else. We could only have produced one type a year if we did all the conversions ourselves."

In 1984, the first of the four games that make up the Spectrum *Sabreman* series was released. *Sabre Wulf* was a colourful action game that introduced the world to the game's iconic pith-helmeted hero. Playing the role of a stumpy adventurer named Sabreman, your mission was to navigate through a colourful 2D tropical maze, made up of 256 flip-screens, to seek four pieces of the ancient ACG amulet – a subtle nod to Ashby Computers and Graphics – that granted him safe passage by the Keeper guarding the exit to the maze. During his mission, Sabreman had to be watchful for enemy insects and tropical animals and defeat them using his trusty sabre – or, when tackling some of the bigger foes, such as hippos and boars, by frightening them with his fencing skills. On top of this, he also had to be watchful for the titular Sabre Wulf, an invincible enemy that appeared in certain areas of the maze, and had to be careful not to get caught dawdling either as a deadly sentient fire would flash up to usher him on his way. *Sabre Wulf* was essentially an interactive maze, but one brimming with intricate detail, gobsmacking colour and some satisfying hack-and-slash combat – although the fact that Sabreman couldn't attack enemies above and beneath him was a bit problematic. Look beneath its bright shrubbery and there were also some subtle arcade accents to be found, likely influenced by the Stampers' arcade past. The game was two-player – though only in the Speccy and C64 versions and not at the same time – and its display had a clear and clean arcade feel to its layout. The game was full-screen with no intrusive object screens or inventory panels to encroach on your peripheral vision, with the high score tallies positioned at the top corners of the screen.




» [Spectrum] Some reviewers criticised *Sabre Wulf* for simply being *Atic Atac* in wulf's clothing.


» [Spectrum] *Knight Lore* single-handedly revolutionised microcomputer gaming.



Sabre Wulf was the first Ultimate title to be adorned with the iconic Ultimate Play The Game frame packaging, and to also ditch the traditional £5.50 price point and retail at £9.95. In an interview with *Crash*, Tim revealed why it was that they took the gamble to increase *Sabre Wulf*'s price.

"We were having a severe problem with the number of [illegal] copies. And I think going from £5.50 to £9.95 was a bold step we took. The price was gradually creeping up, and I thought we might go the whole way and put the product out at a price that was realistic for the time involved in creating it. We were trying to create an incentive for the person who paid £9.95 to say, 'Hey, you're not copying my game!'"

The strategy worked. *Sabre Wulf* smashed all sales records for Ultimate, and even surpassed Activision's monster smash *Ghostbusters*. More importantly, though, Chris and Tim had succeeded in coming up with a classic and



» [BBC] To help keep the character fresh, Ultimate tweaked the look of Sabreman during the series.



» [Spectrum] *Pentagram* had Sabreman drop the adventure threads for a Gandalf fancy dress costume.



» [C64] To escape the maze of *Sabre Wulf*, players had to find four parts of an ancient amulet.

“Chris and Tim succeeded in coming up with a classic and lasting videogame hero”

lasting videogame hero in Sabreman. Boasting a memorable name and quirky look, thanks to his sword and pith helmet, Sabreman not only slotted perfectly into the archetypal mould of the 8-bit videogame hero – essentially an everyman character with a large nose and a hat – but the character's clean and chunky design also partnered brilliantly with the technical limitations of the Spectrum.

But despite its popularity and commercial success, there was one criticism that some reviewers levelled at *Sabre Wulf*. Many argued that it was too similar to the Stampers' previous smash *Atic Atac*. Despite the improvement in visuals and the tweak in perspective, some felt that the game borrowed heavily from *Atic Atac*'s maze layout and criticised the Stampers for not pushing the envelope quite as far as they had with their previous titles. With that in mind, it's no surprise that, for the next game in the series, the Stampers took a slightly different approach to the game. *Underwurlde* featured a brand new side-on perspective, which gave the game an almost platform game appearance. The gameplay also adhered to this platformer-style approach, with a fidgety-feeling Sabreman spelunking and jumping through the game's castle and deep through its underground caverns. While the viewpoint and gameplay were once again tweaked, *Underwurlde* still retained Ultimate's signature flip-screen design, this time across a colossal 597 screens, making for another sprawling adventure. Perhaps the biggest change that the Stampers introduced with *Underwurlde* was disallowing enemies from directly killing or causing damage to Sabreman. Instead, they could only harm him by pushing him to his death. The story found Sabreman trapped in the cavernous Underwurlde. Without his trusty sword for protection, Sabreman had to defeat one of three guardians blocking his escape by finding three weapons – a knife, dagger and torch – hidden in the caves. It was your job to help Sabreman find and use the right weapon against the corresponding demon guarding one of the exits. With three possible exits in the game, *Underwurlde* had three different endings and each end sequence led the player onto the path of the next three games that were planned for the *Sabreman* series.

While Sandy White pipped the Stampers to the post by releasing the first 3D isometric game on the Spectrum with *Ant Attack*, Ultimate's astonishing *Knight Lore*, the third title in the *Sabreman* saga, blew away all competition. Nothing previously released on the Spectrum came close to touching *Knight Lore* on a graphical or technical level. Set inside the exquisitely detailed rooms of Melkhior's castle and running from Ultimate's impressive Filmation engine, *Knight Lore* oozed atmosphere and quality from every pixel. But it wasn't just the groundbreaking visuals and cartoon look that impressed and amazed fans; a couple of interesting changes had occurred in Sabreman too. Fully realised in 3D, and with only his eyeballs and big round nose visible from underneath his pith helmet, this more cartoon Sabreman was perfectly suited to the game's astonishing new design style. And that wasn't all, as after being bitten by the Sabre Wulf, Sabreman is left battling with lycanthropy, transforming him into a werewolf at nightfall. The game's premise found the adventurer searching the wizard's castle for the items needed to rid him of his lupine state. With a time limit of 40 days and nights to complete his mission, which dries up pretty quickly in the game world, timing and planning was needed to solve the tricky action-based puzzles and glean the required ingredients. The innovative Filmation engine also allowed Sabreman to interact with objects in the game, adding a real sense of freedom to the game and its puzzles; something never really seen before on the Spectrum. Ultimate also ensured that Sabreman's lycanthropy formed an integral part of the gameplay. In his wulf state, Sabreman could leap higher to solve puzzles that would otherwise be impossible, but was more vulnerable to particular types of enemy. But perhaps the most shocking thing about *Knight Lore* was its timing. Speaking to *Crash*, the Stampers later made the startling revelation that *Knight Lore* was written before *Sabre Wulf* was even finished. The brothers had admitted to purposely holding back the game's release for fear that no one would buy *Sabre Wulf* after seeing the new engine in action.



"*Knight Lore* was finished before *Sabre Wulf*," said Tim, speaking to *Crash*, "but we decided that the market wasn't ready for it. Because if we released *Knight Lore* and *Alien 8* – which was already half-finished – we wouldn't have sold *Sabre Wulf*. So we sold *Sabre Wulf*, which was a colossal success, and then released the other two. There was a little bit of careful planning in there. But they could have had *Knight Lore* possibly a year earlier – we just had to sit on it because everyone else was so far behind."

Given the popularity of the Filmation engine, and the fact that a number

of software houses and programmers quickly set about trying to capitalise on its popularity, the Stampers saw no reason not to do the same, and so released more Filmation titles over the coming years including *Alien 8* (1985), *Nightshade* (1985) and later *Gunfright* (1986). It was also around this time that the Stampers set up a sister company to Ultimate named Rare Designs of the Future, which they later curtailed to the far snappier name of Rare. It transpired that as far back as 1983, while busy writing *Jetpac*, the Stampers had kept a watchful eye on the emerging Japanese videogame market, and had been secretly getting to grips with programming for Nintendo's Famicom console. The Stampers had once again predicted another big shift that was about to occur in the British game market. The thinking behind this new enterprise was that while Ultimate would handle the brothers' microcomputer output, all Nintendo and console releases would fall to Rare. This turned out to be a savvy move by the brothers, because by 1986, around the release of *Gunfright*, reviewers were expressing concerns about Ultimate's dependence on its Filmation engine. Eventually, realising that there was nowhere else they could take the Spectrum, and that it wasn't beneficial to company expansion to continue producing games on the machine, Tim and Chris decided to sell part of Ultimate to US Gold, remaining majority shareholders in the company, and turn their attentions to Rare and breaking the console market.

Because its release fell after US Gold's part-acquisition of Ultimate, there has always been doubt over the true authors of the next game in the *Sabreman* series. *Pentagram*'s story found Sabreman on a mission to locate the titular star-shaped artefact. To complete his mission, he had to fix five broken obelisks using magically charged well water and then collect five pieces of stone to make up the magical relic. After curing him of his lycanthropy, Sabreman befriends the magician Melkhior and chooses to become his apprentice. Now a wizard, *Pentagram* marked the first time in the series that Sabreman ditched his adventuring gear, opting to wear a wizard robe and grow a beard instead.

Given that *Pentagram* didn't quite match up to the splendour of previous *Sabreman* games, and that, in another interview with *Crash*, Chris named *Gunfright* as the final game that the brothers had worked on together, its believed that *Pentagram* was either written by Tim or Chris alone, or by a team of US Gold programmers. Confusing matters further, of course, is the fact that the brothers had a history

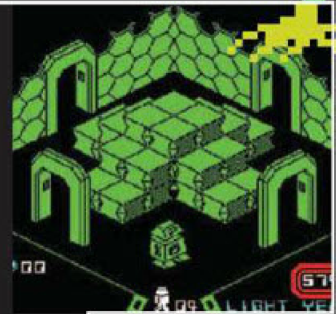


The Ultimate Filmation Games

Ultimate's engine powered some of the most visually impressive Spectrum games and set the company on its future path of technical innovation

Alien 8 1984

Essentially *Knight Lore* set in outer space, the Stampers' second Filmation title saw players control a square-looking maintenance droid whose mission is to keep alive the sleeping crew of a spaceship by finding the missing components needed to fix the ship's cryogenic life support machine. While its formula is similar to *Knight Lore*, the sci-fi theme feels unique enough to make it a classic in its own right. The Stampers later revealed that it was well into development before the release of *Sabre Wulf*.





Nightshade 1985

Often mistaken as an episode in the *Sabreman* series, *Nightshade* was, in fact, a standalone adventure game. Essentially a mixture of *Underwurlde* and *Knight Lore*, but using scrolling screens as opposed to static ones, you played an adventurer who must rid a village of evil by vanquishing four demons. Not a patch on *Knight Lore*, and in fact quite inferior in many ways, this was the first time that voices of dissent were really starting to be heard from Ultimate fans.

Gunfright 1986

Whereas *Alien 8* launched Filmation into space, *Gunfright* shifted the engine to the Wild West. Playing the role of a town sheriff, who looks remarkably like Sabreman – possibly an ancestor – your mission was to clean up a town riddled with outlaws. Split into three stages, the first saw you practising your aim by shooting money bags, the second saw players patrolling the streets to find and capture nine wanted fugitives, and the final one finished in a dramatic gunfight.

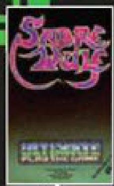




Bubbler 1987

The most technically advanced of all the Filmation titles, this sought-after Speccy and Amstrad title has fetched some astonishing prices on eBay and was the second game of the three post-Stamper Ultimate games. *Bubbler* was essentially a Filmation take on titles such as *Spindizzy* and *Marble Madness*. It finds the player transformed into a globule of slime by an evil wizard, and trying to cure this gluey state by corking bottles of magic to weaken his oppressor.

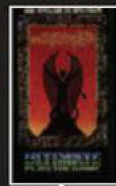
Sabreman Timeline



Sabre Wulf

The first *Sabreman* title was a 2D flip-screen adventure. It found pith-helmeted hero Sabreman trying to find pieces of an ancient amulet and escape the titular Sabre Wulf.

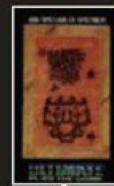
1984



Underwurlde

A new direction and new perspective for Sabreman saw him jumping around the dank cavernous world of Underwurlde in an enjoyable side-scrolling 2D platformer.

1984



Knight Lore

It was the game that changed the face of Spectrum gaming forever. This pioneering isometric 3D adventure smash saw Sabreman trying to cure himself of lycanthropy after being bitten by the Sabre Wulf.

1984

of not releasing games in order of their completion – remember that they had previously held back the release of *Knight Lore* – so it's also feasible that *Pentagram* was written, or at least partially written, by the brothers collectively before *Gunfright* was even released. Regardless of who the true author of *Pentagram* is, it would be Ultimate's final *Sabreman* release, and the most ambitious of its Filmation games.

The true casualty of US Gold's partial buyout of Ultimate was the final unreleased episode in the *Sabreman* saga: *Mire Mare*. The much talked about final episode in the series, despite being mentioned in the endings of *Pentagram* and *Underwurlde*, never actually found a release. Only the Stampers know the truth, but that hasn't stopped various conspiracy theories from surfacing on the internet, and a conveniently anonymous former Ultimate staffer claiming that the game was finished. While entirely speculative, it's rumoured

"That he has continued to crop up is proof that Rare has a lot of fondness for Sabreman"

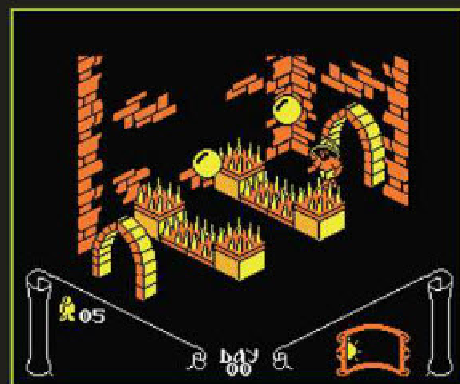


that development of *Mire Mare* was held back by Ultimate during US Gold's partial takeover to ensure that it was its final release. But it's believed that the Stampers grew disillusioned with US Gold after learning of the company's strategy to focus on budget re-releases over investment in new titles, and as a result the game was never finished. While many fans have assumed that *Mire Mare* would keep the Filmation look of both *Knight Lore* and *Pentagram*, in 1990 it was revealed on Rare's website that the game would have played more like *Sabre Wulf*. The website also claimed that the basic game design of *Mire Mare* was finalised, but coding never commenced because of time. In hindsight, it's very unlikely that the game was finished. Knowing just how popular the series was with Spectrum owners, it's improbable that the Stampers would have blocked the release of the final game, regardless of any ill feeling between them and US Gold at the time. It's far more likely that the series was a victim of timing. As the brothers had rightly predicted, the market was changing as the reign of the microcomputer was coming to an end.

It would be 19 years before we would finally see Sabreman return to our screens in his own game. Before then, of course, the character had made a number of subtle cameo appearances in various Rare games, fuelling the belief that another *Sabreman* game was on the cards. He was the main inspiration behind the character Count Von Sabrewulf in *Killer Instinct*, and also had a minor cameo in *Banjo-Tooie*, where he appeared frozen inside a block of ice on the stage Hailfire Peaks. Rare has also made reference to Sabreman in the games *Viva Piñata* and in the GBA version of *Donkey Kong Country*, and at one time was even rumoured to be working on a racing game based on the *Sabreman* universe. Titled *Sabreman Stampede*, it was speculated that the game would have been adapted from the cancelled *Donkey Kong Racing* GameCube game. In 2004, Rare finally decided to revisit the character properly by giving him his own game. And once again it saw another change in the look and gameplay style of the series. Released for the GBA, and confusingly titled *Sabre Wulf*, the game wasn't a portable remake as many fans assumed but more of a cutesy



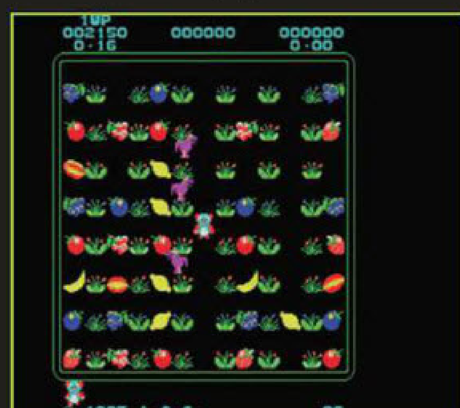
» [Spectrum] To this day there is still uncertainty over the true authorship of *Pentagram*.



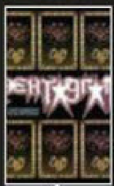
» [Amstrad] The Stampers later revealed that *Knight Lore* was written before the release of *Sabre Wulf*.



» [GBA] *Sabre Wulf*'s colourful cartoon look polarised fans, but we loved all the referances to past games.

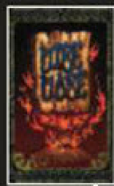


» [Arcade] *Dingo* was a colourful-looking arcade title by ACG that has a spookily similar look to *Sabre Wulf*.



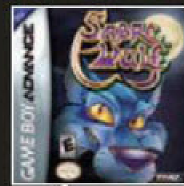
Pentagram

Sabreman ditched the helmet and shorts for a wizard getup in his fourth and final Spectrum outing. This time he was on a mission to find the scattered pieces of a magical artefact known as the Pentagram.



Mire Mare
(Unreleased)

Little is known about the planned but unreleased final chapter in the saga, though it's been rumoured that the game would have played more like *Sabre Wulf*.

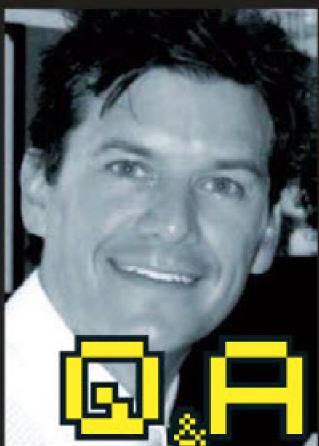


Sabre Wulf (GBA)

The last game to star Sabreman saw him don his pith helmet once again for a colourful side-scrolling platform game that shared a few similarities with Rare's *Donkey Kong Country* series.

1985

2004



Q&A

We probe Rare's ex-head of studio, Mark Betteridge, about those burning Sabreman questions

■ **Did the Stampers ever tell you where the idea for Sabreman originated?**
Sadly no. Maybe the result of watching *Carry On Up The Khyber* too many times? Sabreman was designed to make sure the player knew they were in the hands of an experienced, intrepid explorer before dropping them into the middle of the jungle or at the entrance to an ancient castle. It was probably a bonus that he was a quintessentially British character on a quintessentially British computer.

■ **Why do you think he proved so popular on the Spectrum?**
I suppose a lot of it was down to the games themselves making such an impact, and Sabreman being a representative for them. He was the common thread that ran through the whole series, and the way his characteristics changed between the games – explorer, werewolf, wizard – kept him interesting.

■ **Could you tell us everything you know about *Mire Mare*?**
Well, there was cover art, which we posted on the Rare website when it was plucked out of Tim's original artwork portfolio back in the late Nineties. I don't think the game itself ever got very far; it certainly wasn't completed. There was every intention of finishing and releasing it, but Ultimate's time on the 8-bit home computers turned out to be limited before it morphed into Rare and changed direction.

■ **Why was *Sabre Wulf* resurrected for the Game Boy Advance as opposed to a home console?**
The team just wanted to do something with one of the old Ultimate properties, and handhelds seemed like a good place to experiment with the popularity and relevance of past franchises. The style ended up being very different, but *Sabre Wulf* on the GBA turned out really well, as did *Jetpac Refuelled* on Xbox Live Arcade later. We like to revisit the old IP from time to time, but with over 25 years of characters and series to work with and the constant need for new titles on top of that, we can never make everything that we want to!

■ **Whose idea was it to stick him in *Banjo-Tooie* and was there any truth to the rumours of a proposed N64 game?**
That was lead designer Gregg Mayles. The *Banjo* team are known for including self-referential bits and pieces, from the posters in *Grabbed By The Ghoulies* to the game discs in *Banjo-Kazooie: Nuts & Bolts*. In *Tooie*'s case, Gregg needed a character that had been frozen in ice for years and he wanted it to be someone recognisable, so he went all the way back through Rare's history to Sabreman. There were no N64 *Sabreman* games proposed – *Tooie* was his only appearance on the system.

■ **Tell us a little about *Sabreman Stampede* on the Xbox.**
It was conceived as a sort of Xbox successor to the similarly unreleased *Donkey Kong Racing* template featuring jungle animals instead of vehicles, but it soon evolved into something more adventure-based, which better suited the character. One of the senior team members recently described it as "like *Jambo Safari* and *Grand Theft Auto* rolled into one". Make of that what you will!



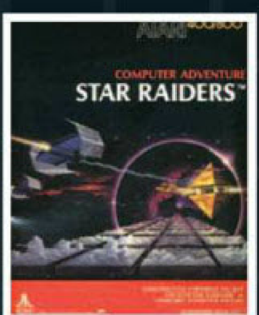
» [GBA] Some 19 years later and Sabreman is still being hounded by his old nemesis.

reboot of the series. A side-scrolling platform romp that shared a number of similarities to Rare's *Donkey Kong Country* titles – most notably that many of the missions required Sabreman to enlist the help of various jungle creatures – it saw Sabreman travelling to a variety of villages, all taking their names from Ultimate games, to solve the puzzles required to enter Sabre Wulf's various lairs. While Sabreman had taken the platform game route once before with *Underwurlde*, the epic and mature feel that the series is renowned for was lost among the cute and colourful aesthetics of this portable outing, and left many fans disappointed and confused as to what Rare has in store for the character.

Whatever the future holds for Sabreman, it's clear that the character still features prominently in Rare's impressive catalogue. The very fact that the character has continued to crop up in various Rare titles over the years is unmitigated proof that the company obviously holds a lot of adoration and fondness for the character. And while many passionate retro fans would be happy for Sabreman's adventures to continue on for many years to come, we can understand Rare's want to use the character sparingly. In terms of quality, the worst thing Sonic ever did was become a household name. The popularity of Sega's zippy mascot is a contributing factor to why he quickly got enveloped by annoying peripheral characters and silly gameplay gimmicks as Sega tried to capitalise on his popularity. Even Mario, unarguably the most popular videogame character in history, has been lent out to projects less befitting of his stature over the years. Can the same really be said about Sabreman? While his 2004 return might not have been quite what fans had in mind for their hero, the GBA title was still an enjoyable and quirky platform adventure, and has done nothing to tarnish the heritage of the character. It's just a shame that, in 2007, the Stampers left Rare, as unless they plan on making a triumphant return to the games industry any time soon, it's looking increasingly unlikely that we will ever get to hear the definitive story behind the *Sabreman* series, that US Gold relationship and what actually happened to *Mire Mare*. One thing is certain, though: if we are fortunate enough to ever find out the truth, you'll be the first to know.

STAR RAIDERS

The world's first free-roaming starship simulator, Star Raiders was the killer application that boosted sales of Atari's early home computers like no other. Mike Bevan talks to programmer Doug Neubauer about the creation of a truly groundbreaking 3D space shoot-'em-up



IN THE KNOW

- » **PUBLISHER:** ATARI
- » **DEVELOPER:** IN-HOUSE
- » **PLATFORM:** ATARI 8-BIT, 2600, 5200, ST
- » **RELEASED:** 1979
- » **GENRE:** 3D SPACE SHOOTER
- » **EXPECT TO PAY:** £5+

The star-date is 1979. *Space Invaders* is just a year old, *Pong* is barely out of nappies, and *Pac-Man* is yet to unleash on the world its yellow, pizza-faced protagonist. Atari, buoyant on the success of its 2600 console, is gearing up for the release of its first generation of home computers. Gamers bemoan the comparatively high price of the new machines and return to the straightforward but enjoyable thrills of the VCS games catalogue. Then, seemingly out of nowhere, comes *Star Raiders*.

While space-themed shooters of the era – the likes of *Galaxian* and *Space Invaders* – put you in simple single-screen firefights, *Star Raiders* gave you the commander's seat of a starship for a full-on, genuinely cinematic 'mission', defending a clutch of friendly star bases from the invading forces of the Zylon Empire. Compared to the static shooting galleries of many popular videogames, *Star Raiders* was a revelation, portraying a 3D star field through which players could plot their ship's course with the help of a simple but versatile 'Galactic Chart', engage the Zylon battle fleet, and strategise in real-time.

It wasn't hard to see why *Star Raiders* soon started flying off the shelves, along with Atari's first two home computers, the 400 and 800. Given the public interest in space-themed sci-fi in the wake of the first instalment of the *Star Wars* saga, gamers and closet Luke Skywalkers alike went gaga for the immersive intergalactic action that the game offered. Many customers reportedly bought Atari computers just to play *Star Raiders*.

Surprisingly for such an innovative, compelling title, its creator, Doug Neubauer, had never written a published game before. With a background in electrical engineering rather than game design, Neubauer was one of the many early classic game programmers to fall into the industry on a whim. "I remember having the choice between working at National Semiconductor in their calculator and home computer/videogame department, working at IBM in their electric typewriter division, or working in San Diego at some aerospace company," Neubauer reminisces. "Videogames and home computers looked a lot more interesting, not to mention fun. In hindsight, I think I made the right choice."

"I was hired at National by Richard Simone, who went on to head Atari's 'dedicated game' console department," he continues, "which paralleled Jay Miner's 'cartridge-based' game console department." It was a move that Neubauer soon made himself. At Atari, he would be one of the key figures in the development of the POKEY sound chip, which graced the company's 400/800 computers, along with a number of migrant employees from National. "The chip design department at Atari was more like a traditional semiconductor company, with senior design architects coming up with the overall design specification, and then folks like



» [Atari 8-bit] The Galactic Chart tracks your position along with friendly star bases and Zylon fighter groups, allowing you to warp quickly to the action.







» [Atari 8-bit] The hyperwarp sequence. On higher levels players must keep the crosshair central to avoid jumping past their destination by several light years.

SOLARIS

ALTHOUGH *STAR RAIDERS II* may be the official sequel, many fans of the original will point to Neubauer's own *Solaris* as the true successor to the original game. *Solaris* may alter the perspective from a first to a third-person view similar to Konami's *Gyruss*, but it retains the frantic 3D sprite-based dogfighting of Neubauer's debut, and is a massive technical accomplishment for the lowly 2600. Published in 1986, late in the life of Atari's ageing console, many consider the game to be the ultimate graphical tour de force for the system.

"I didn't consider *Solaris* as a sequel to *Star Raiders*, although I guess it kind of is," comments Neubauer. "They both fly through space, they both have Galactic Charts, and *Solaris* extends the game with flying on the planet surface and through a trench.

"For a time, the game that eventually became *Solaris* was going to be used as the game for *The Last Starfighter*, but this plan got tossed when Jack Tramiel bought the company. I think *Star Raiders* had better gameplay, though, and I much preferred *Star Raiders'* explosion graphics. Also, I think I prefer the pure cockpit view of *Star Raiders*."

me, the logic and circuit designers, implementing the spec," he recalls.

The transition from circuit to software design, as Neubauer began to start work on the programming project that would become *Star Raiders*, was prompted by a period of downtime during his hardware design duties. "POKEY was finished and we were waiting on the other two chips to be completed," he remembers. "My work was pretty much finished, except for helping the test engineers get the POKEY test fixture up and running. Atari was pretty laid back, and I was working for the legendary Jay Miner, who let me work on the game. Also, I think *Star Raiders*, along with the other early games, helped in finding any bugs in the Atari 400/800 chips."

> **"Neubauer created something that he wanted to play himself: a simulation of 3D space combat"**

Inspired by the text-based *Star Trek* game doing the rounds on mainframe computers at the time, Neubauer set about creating something that he really wanted to play himself: an ambitious simulation of 3D space combat. "*Battlestar Galactica* was 'the' sci-fi TV show," he says, confirming the influence behind the game's Zylon enemies. "Other influences were *Star Trek*, *Star Wars*, *THX 1138*, *War Of The Worlds* and *2001*. Also, any number of science-fiction stories by Isaac Asimov, and *Dune* by Frank Herbert.

"I should confess that I never actually played the old *Star Trek* game. I just listened to other programmers describing the game and looked over their shoulders a few times. The game just didn't look that interesting to play, but it looked like a good idea for a galactic chart."

The backbone of *Star Raiders*, the Galactic Chart, is the arena for the strategic element that, coupled with the enjoyable, fast-paced 3D combat, so impressed players at the time. As you 'hyperwarp', Kirk-style, between its grid-like sectors, enemy ships go about the business of trying to surround your star bases like a game of real-time interstellar chess.

"Not having played the game, I didn't have any improvements in mind, but I had a rough idea of how the Galactic Chart should operate," says Neubauer, "with star bases where you refuelled and repaired damage. Also you had to defend the star bases from enemy fleets. I 'borrowed' a number of ideas from *Star Trek* and *Star Wars*, such as the 3D cockpit view, the attack computer, and the hyperwarp graphic."

The hyperwarp sequence, with its movie-like transition of rushing stars as you hurtle to your next destination, turned out to be one of

CONVERSIONS AND COPYCATS

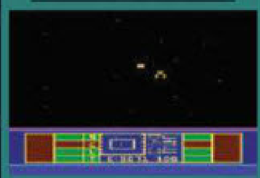
STAR RAIDERS (ATARI VCS) 1982
■ Generally regarded as a rather weak port of the Atari 400/800 original, this version shrinks the Galactic Chart from a 36-by-16 grid to a mere 4-by-4, giving players a much more limited *Raiders* experience. It was also expensive by VCS standards, as it came packaged with an exclusive touch-screen pad controller.



STARMASTER (ATARI VCS) 1982
■ Atari's biggest gaming industry rival, Activision, considerably bettered the official VCS port with its own take on the format. Programmed by ex-Atari game designer Alan Miller, *Starmaster* featured more impressive and detailed graphics, a larger Galactic Chart, and enjoyably frenetic deep-space action.



PHASER PATROL (ATARI VCS) 1982
■ Designed by Dennis Caswell, more famous as the creator of a certain *Impossible Mission*, this was possibly the finest *Raiders* clone on the VCS. The downside was that the game was only compatible with the Starpath Supercharger, a device that increased system memory, bundled in for a whopping $44.95.



SENTINEL (COMMODORE 64) 1984
■ Owners of Commodore's beige bread bin who were understandably envious of Atari-owning school friends could do a lot worse than pick up Synapse Software's slick, visually attractive take on *Star Raiders*, as *Zzap!64* magazine keenly noted when it was re-released in the UK on the budget Americana label.



CODENAME MAT (ZX SPECTRUM) 1984
■ Micromega's ambitious *Raiders*-esque shooter – it stands for 'Mission: Alien Termination' if you were wondering – is one of the best games of its type on the Speccy. Here, the familiar grid-style star chart is supplemented by an ingenious global 3D long-range scanner, showing the positions of enemies in your vicinity.



STAR RAIDERS II (VARIOUS) 1986
■ Developed without Doug Neubauer, who had long left Atari as a full-time employee, this is *Raiders* in name only, starting life as a home computer version of the later abandoned *Last Starfighter* movie licence. Its firefights above pseudo-3D planets are pretty, but the depth and classic appeal of the original is largely absent.



STAR RAIDERS (ATARI ST) 1988
■ The only 16-bit version of *Raiders* is disappointing to say the least. The 'improved' graphics aren't actually very good, the controls feel 'floaty' and odd, the aft view and tracking computers are next to useless, and, worst of all, it's far slower than the original. Also, criminally there's no mention of Neubauer in the in-game credits.



BATTLESPHERE (ATARI JAGUAR) 2000
■ Clearly developed by *Star Raiders* fans, and one of the last full-blown Jaguar games, *Battlesphere*'s single-player campaign plays like a next-gen *Raiders*, as you battle a variety of beautifully texture-mapped enemy craft and direct your fleet against enemy star bases and multiple factions in real-time.



> **"Nobody knew the algorithms for 3D motion, so I sat down with a piece of paper and worked it out"**

the signature moments of the game. On lower levels players can simply relax and enjoy the view, but higher difficulty modes require manual intervention en route.

"Initially I was going to make the hyperwarp more complicated, where the player was going to have to do some kind of calculations in order to make the jump, like Isaac Asimov's *The Stars, Like Dust*, but it didn't take too long to realise that it was a dumb idea in terms of gameplay for an action videogame," he chuckles.

Given the graphic limitations of the first-generation Atari computers, Neubauer remembers struggling with the routine for the 3D combat initiated by warping into an enemy sector. "As far as I know, it was the first 3D space game," he says. "I asked around Atari if anyone knew the algorithms for 3D motion, but nobody did. At the time there weren't really any other space videogames out there – that I was aware of, anyway. So I wasted a few weeks trying to figure out the equations, until I finally sat down with a piece of paper and worked out the geometry. The hard part was figuring out the rotation algorithm without using sines and cosines."

Regardless of his lack of familiarity with the capabilities of the hardware, Neubauer's efforts paid off, with some surprisingly visceral ship-to-ship fights as players fling photon torpedoes across the starscape while dodging incoming fire with judicious use of thrusters and shields. Neubauer states candidly that he might have been able to come up with something even better with a bit more experience of the Atari's graphics chip: "The Atari 800 had something like four sprites, that I really didn't know how to use very well at that time, so I think there are only two bad guys on the screen at a time along with your two photon torpedoes and one enemy torpedo. I could have got more bad guys on the screen by reusing the sprites like I did with *Solaris* on the 2600."

Along with the realistic star field, another highlight was the use of spectacular particle explosions, similar to those seen in *Defender*. "Once I had the algorithm down for the 3D motion, the star field was pretty simple," comments Neubauer. "Ditto the explosions, except that trying to calculate the positions of that many particles using my crummy 16-bit multiplier code slowed down the game. One interesting detail was getting the star field to work in the aft view. It's more complicated than the forward view."

Worth pointing out is Neubauer's innovative 'targeting computer', which automatically tracks enemies from forward to aft as they circle you; surely the first example of an auto-tracking camera seen in a videogame.



» [Atari 8-bit] The long-range scanner tracks the position of any enemy ships in the vicinity, allowing you to adjust your course and intercept.

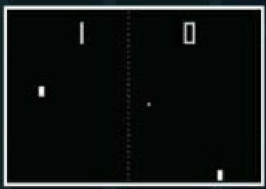


» [Atari 8-bit] *Star Raiders* was ahead of its time in simulating damage to separate ship systems. Here we've lost our targeting computer in an asteroid hit and we'll have to locate enemies manually until it gets repaired.

» [Atari 8-bit] The particle explosions in *Star Raiders* were impressive for their time, even if they do slow the game down. Note the attack computer bottom-right – one of the first instances of a 'radar' scanner in a 3D game.







PUBLISHER HIGHLIGHTS

PONG (PICTURED)
SYSTEM: ARCADE, ATARI 2600, ATARI 5200
YEAR: 1972

MISSILE COMMAND
SYSTEM: ARCADE, ATARI 2600, ATARI 5200, LYNX, GAME BOY, XBOX LIVE ARCADE
YEAR: 1980

BREAKOUT
SYSTEM: ARCADE, ATARI 2600, ATARI 5200
YEAR: 1976



» [Atari 8-bit] Activating shields will protect you from instant death by enemy torpedo, but your ship's systems can still be damaged and you'll deplete precious energy. Head to the nearest friendly star base to repair and refuel.

The game's AI was equally impressive, even if Neubauer admits that he had to "dumb down the Zylon brain to something on the order of a turnip" in order not to overwhelm players.

"As I remember, the bad guys would randomly pick a star base to attack, and then each enemy fleet would choose the shortest path to the star base," he explains. "This algorithm didn't quite work, as from time to time the bad guys would get stuck. I added a little randomness to their path so they could get unstuck. On the higher levels, they move a little faster and they get smarter, in that there's less 'randomness' in their attack algorithm."

Star Raiders is particularly impressive for the fact that Neubauer wrote it to be capable of running on the low-end Atari 400, in a measly 8K of memory. "We ended up with a lot of ugly spaghetti code to make everything fit on the cartridge," he reveals. "For example, if the graphic of an enemy ship ended in a 0 byte, and the starting byte of the next graphic was also a 0 byte, then the programmer could overlap the two bytes of the two graphics, with the net result of saving a byte. In this day and age that sounds kind of pathetic, when even a small JPEG image is greater than 8K."

One game feature that Neubauer had to abandon due to memory restrictions would famously become a key feature of the classic space-trading game *Elite* when it debuted five years later on the BBC Micro. "I wanted to be able to fly into the star base for docking," he says, "but I didn't have enough bytes in the ROM to do that. Although, for some reason, when I did *Star Raiders*, I wasn't thinking about flying through a trench or flying onto the surface of a planet."

Although David Braben has stated that he wasn't aware of *Star Raiders* when he started working on *Elite*, a feature they do both share is a quirkily humorous ranking system. While *Elite* grades players from 'Harmless' to 'Elite', *Star Raiders* rookies will soon become familiar with the phrases 'Galactic Cook' and 'Garbage Scow Captain', while veteran space aces can aspire to the ultimate accolade of 'Star Commander (Class 1)'.

"I didn't want to just have a number score, so having rankings like in the military seemed natural," explains Neubauer. "And, of course, I threw in a few gag ratings when you didn't do so good…"

The game's release on cartridge format was wildly successful for Atari. Players loved the fact that they could plug in their copy and be scouring the galaxy for space vermin in mere seconds. Computer magazine reviewers, particularly in the US, were ecstatic. Conversions for the Atari VCS and later the 16-bit ST computer followed, along with a sequel, *Star Raiders II*, with which Neubauer actually had no involvement. But like many others in the industry at the time, Neubauer's rewards for his pioneering original creation were minimal.

"At that time, Atari wasn't doing royalties," he says. "Only later in '83 or so did they start paying programmers royalties, mainly to keep any more from leaving and starting up their own companies. I had left Atari to work at Hewlett-Packard, so I missed out on a lot of the press. When I came back in 1981, it was kind of amazing, but if there was any kind of ego thing involved, the crash of '83 cured it."

However, perhaps the most deserved tribute came in 2007, when *Star Raiders* was selected by a panel instigated by Stanford University as one of the ten most important videogames of all time, joining such notable entrants as *Zork*, *Tetris*, *Civilization* and *Doom*. Asked what he makes of this, Neubauer's reply is typically humble and concise: "It's pretty amazing, actually," he says.

PSSST

WHISPER IT… IT'S GOOD



- » **PUBLISHER:** ULTIMATE PLAY THE GAME
- » **RELEASED:** 1983
- » **GENRE:** ARCADE
- » **FEATURED HARDWARE:** ZX SPECTRUM
- » **EXPECT TO PAY:** £2.50 (ROM CARTRIDGE RECENTLY FETCHED £50)



HISTORY

Back in 1983, Ultimate released Pssst, Chris and Tim Stamper's gaming follow-up that rode hot on the heels of instant classic Jetpac. Neither game had been unveiled to much fanfare, but quietly they began to grow on people.

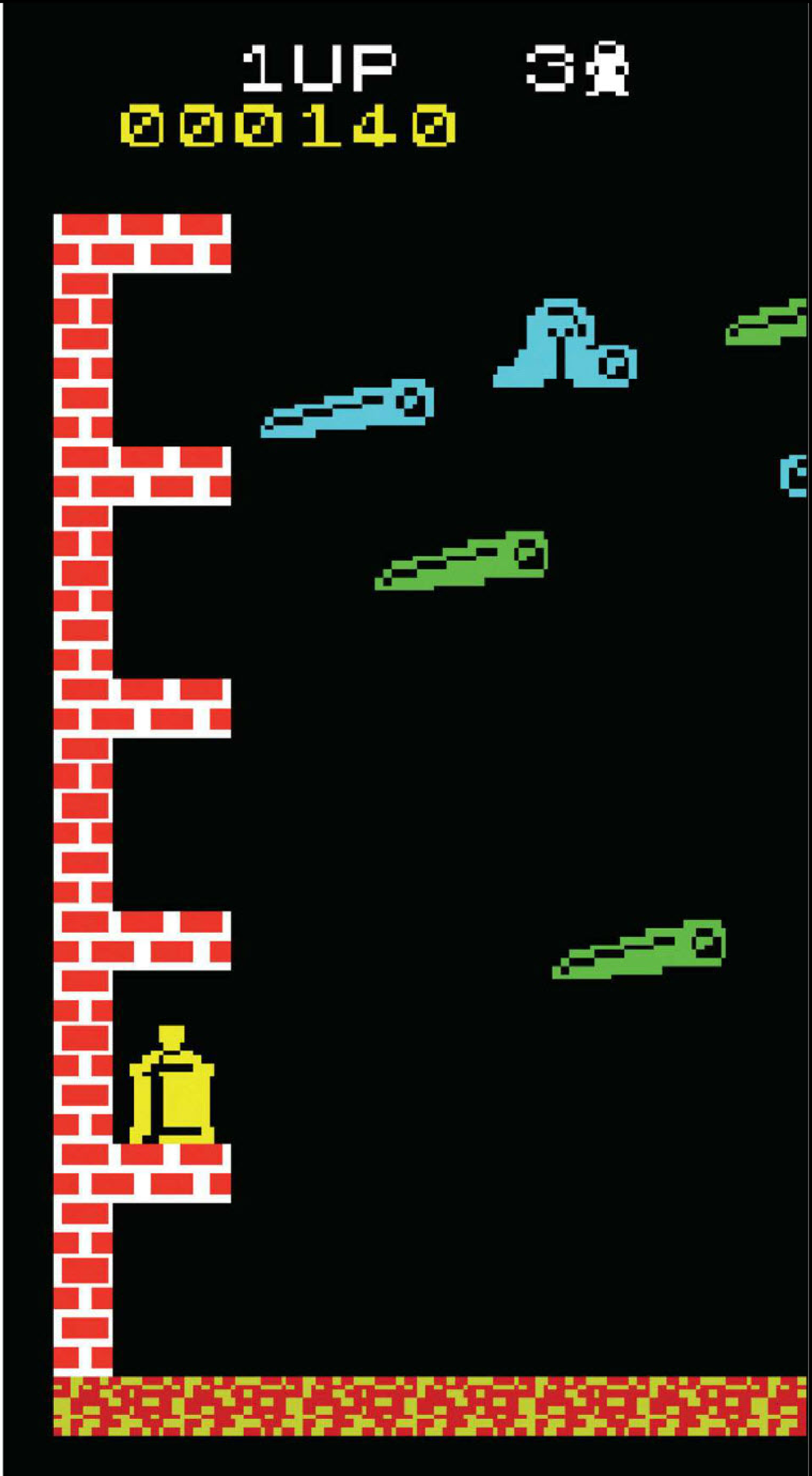
Ultimate continued to knock out a range of successful hits – the first 14 of which averaged 93 per cent in *Crash* magazine. *Pssst* continues to stand out, not just for its stunning graphics, but also for great gameplay that without doubt had the Stamper's magic green-fingered touch.

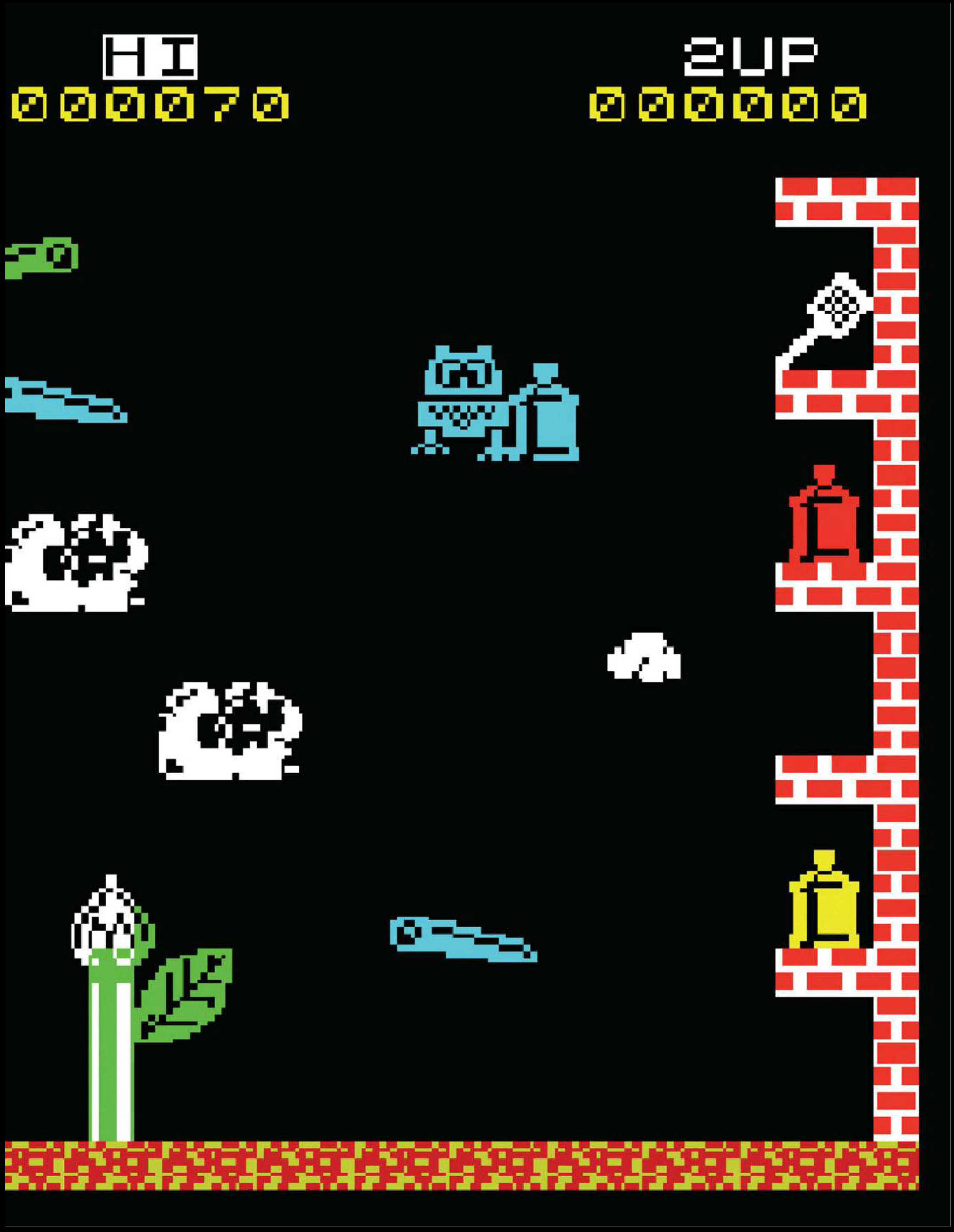
It was the cover art that first attracted me to *Pssst* – that and the name. Colourful, cute and intriguing, it drew me to pick it up and even today has the ability to make me smile. And I think it's because that cover encapsulates the fun concept, the whole imaginative wheeze about a robot aiming to protect his prize Thyrgodian Megga Chrisanthodil from evil, destructive bugs by first picking up and then using various colour-coded spray cans all geared up to obliterate a particular insect.

It's a simple premise that plays out fast and furiously, not to mention relentlessly. As you save one plant you go up a level to save another, reaching once more for compost to help your plant grow, and trying hard to prevent it from death. To make life harder, Robbie also dies when he's hit by an insect.

More recently, there have been a few remakes of *Pssst*, mainly in Flash. Some succeed in giving the game a glossy sheen, but you can polish games like this for all they're worth and yet deep down it's pointless. It's hard to better the original concept, and charm can be lost when an old title is tarted up.

When you look back you realise that this game, which was written wholly in machine code, had all the ingredients of the pick-up-and-play gameplay and intuitive controls that casual game developers yearn to emulate today. It is an enduring gem so iconic you'd do well to snap up the rare and more expensive ROM cartridge version if only to sit back and admire the genius within.




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In the chair with...

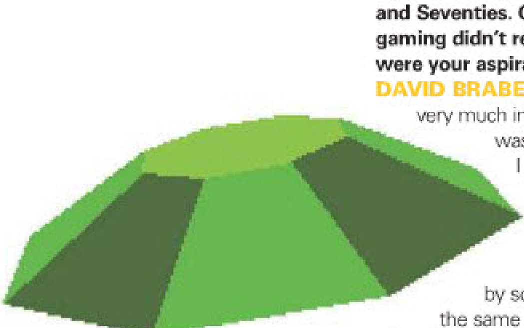
DAVID BRABEN

Elite. Need we go on? In 1984, David Braben co-created one of the best videogames ever made. Still topping polls today, the game's open-ended gameplay and 3D graphics were truly groundbreaking. In an exclusive interview with David Crookes, Braben reveals all

A QUARTER OF a century has passed since David Braben and Ian Bell sat down at Cambridge University to work on Elite. The game went on to shape videogaming as we know it, proving to be hugely influential for generations of developers. It was a seminal moment in gaming's short history and yet we cannot help but feel that, had this occurred in music or film, the mainstream media would have devoted more space to it. That didn't happen. But it was celebrated at GameCity in Nottingham, where Braben and Bell took to the stage to discuss the game's impact on their lives. David Crookes caught up with Braben to learn more about his life in videogaming to date.

RETRO GAMER: Let us start by going back to your days at school in the late Sixties and Seventies. Computers and gaming didn't really exist, so what were your aspirations back then?

DAVID BRABEN: At school I was very much into physics and that was my major passion. I enjoyed seeing how things worked and I also loved making things. I felt fascinated by science, but at the same time, I enjoyed unleashing my creativity.



RG: Were you considering a career in science back then?

DB: I liked the idea of being a research scientist. You know, looking into… well, lots of different things, I suppose. It was very interesting. I have also been fascinated with astronomy for a very long time. I am amazed at how little we understand the whole shebang. I mean, I look up into the sky today and I realise that it was only quite recently in historical terms that we had any idea of what kept the sun warm. And you know, we still don't understand gravity.

RG: Would it be fair to say that you have a natural instinct to explore and discover?

DB: I think so. There are a huge number of things that are out there that we have almost no comprehension of, you know? In fact, the things that we do have comprehension of are a very small percentage of what there is to understand.

RG: How did you get into the development of games?

DB: Well, I did sciences at university. I went to Cambridge to study natural sciences, which is specialising in physics, and in parallel I got a computer and started playing around with it. And I was fascinated by 3D graphics and put together various graphical things. I wanted to make a game because that seemed the best way to make use of graphics, if you see what I mean. It sort of started life as a hobby.

RG: But if gaming hadn't existed, do you think you'd have become an astronomer, perhaps?

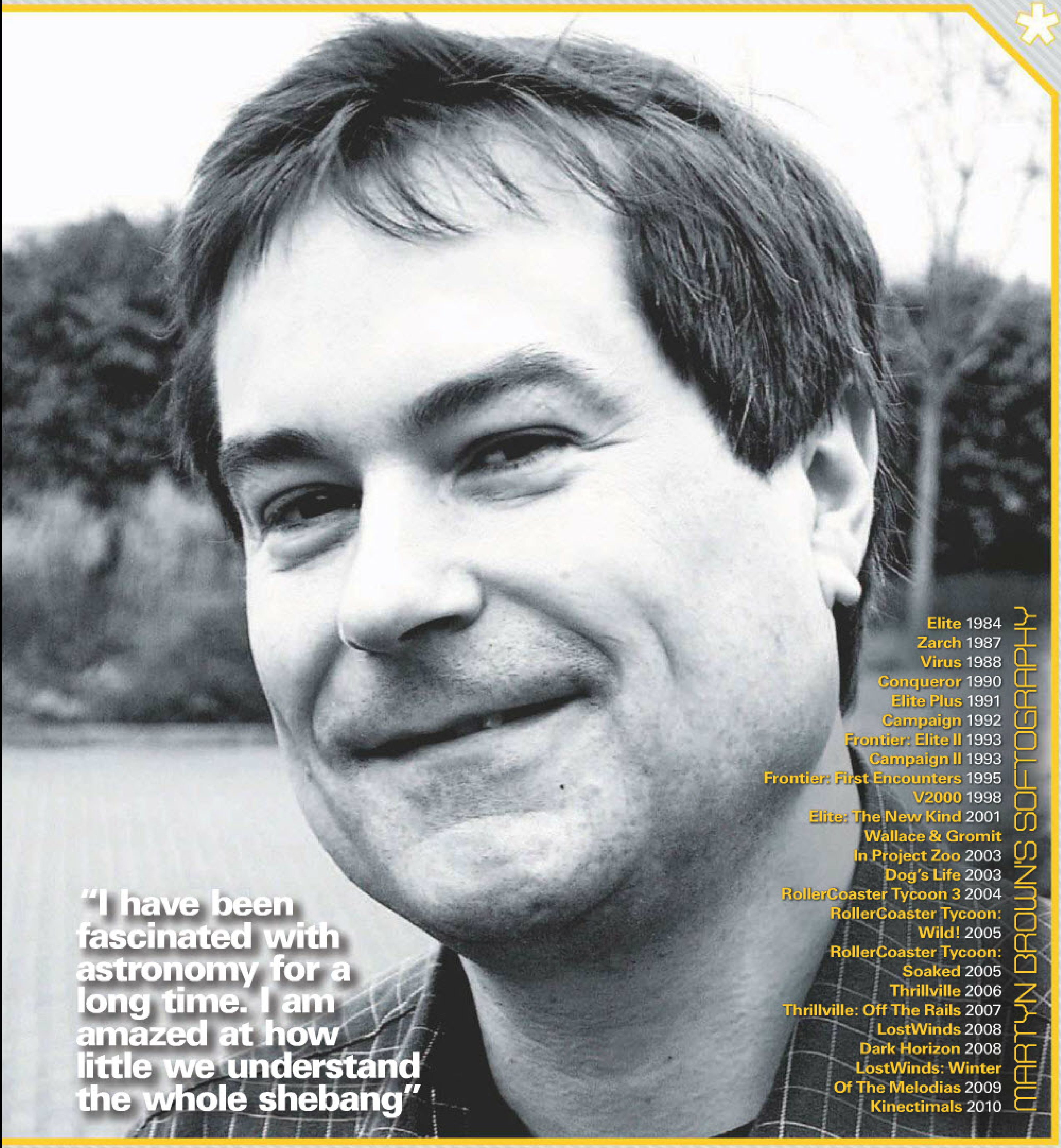
DB: Quite possibly, yes, but you never really know. You know, if that hadn't… If games hadn't taken my fancy, maybe something else would. Personally, that was the path when I went to university that I was imagining I was going to go down.

RG: Can you remember the first time you played a game?

DB: Well it wasn't when I was a child because there were no such things at that time. When I went into the sixth form, games had just appeared in pubs and arcades. There were some *Space Invaders* cabinets from Taito – you know, the original *Space Invaders*. And then when I went to university, or maybe it was when I was still in the sixth form, I seem to recall seeing *Galaxian* and then *Pac-Man*.

RG: Did they fascinate you?

DB: The games then were very much centred around coin-operated machines. They weren't in the home. I remember a machine came out at the end of the Seventies, where you had these six games and a machine that you plugged into the television.



"I have been fascinated with astronomy for a long time. I am amazed at how little we understand the whole shebang"

MARTYN BROWN'S SOFTOGRAPHY

Elite 1984
Zarch 1987
Virus 1988
Conqueror 1990
Elite Plus 1991
Campaign 1992
Frontier: Elite II 1993
Campaign II 1993
Frontier: First Encounters 1995
V2000 1998
Elite: The New Kind 2001
Wallace & Gromit In Project Zoo 2003
Dog's Life 2003
RollerCoaster Tycoon 3 2004
RollerCoaster Tycoon: Wild! 2005
RollerCoaster Tycoon: Soaked 2005
Thrillville 2006
Thrillville: Off The Rails 2007
LostWinds 2008
Dark Horizon 2008
LostWinds: Winter Of The Melodias 2009
Kinectimals 2010

In the chair with...

It would just make bleeps and it had rip-offs of *Pong*, *Breakout*, those sort of things. But, to be honest, computer games were just a hobby. They weren't as engaging as they are now, if that makes sense.

RG: So games didn't particularly grab you right from the start?

DB: These earlier games came along a bit late for me. I was already moving on by then, if that makes sense. I mean, we didn't have a computer at school until I was in the sixth form. But I was always fascinated by the sort of clever things that these machines could potentially do.

RG: It sounds as if you were more interested in how games were constructed rather than the games themselves…

DB: Yes. I quite enjoyed subjects like maths. I was a bit of a saddo at heart [laughs] but I remember seeing an advert for an Acorn Atom, and you had to buy it as a kit and put it together. I remember being fascinated by the idea that you could build a computer to do things and I got very excited that using very, very simple logical steps you could make something really complicated.

RG: Did this extend to your future in programming?

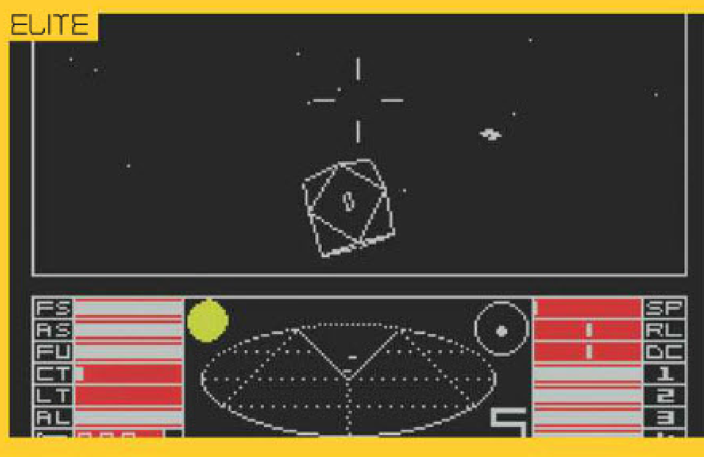
DB: When I was a lot younger I had Lego and the mindset of making really complicated things out of things that were quite simple was really exciting. I think that's what got me interested. I mean, the Lego had gear wheels with it and you could make really quite complicated machines out of what seemed quite simple things. And it's that same sort of fascination, I think, with programming – designing things that could be exciting – but at the same time a way of trying out different sorts of technological solutions to things.

RG: Given your love of physics and astronomy, it's little wonder that you created *Elite*…

DB: One of the very first things I wrote on a computer was an expanding star field. I wanted to actually be able to fly through a star field, and I remember writing this in BASIC. I was really crestfallen because I was expecting it to run really quickly because at the time I thought, 'Oh, it's only drawing a few

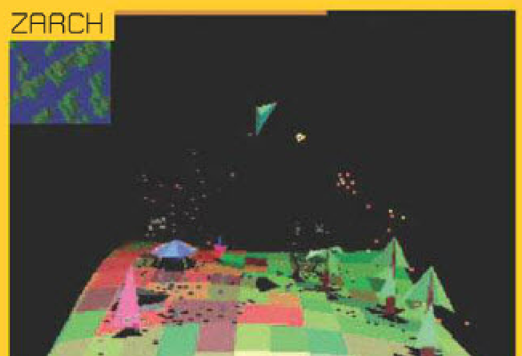
* FIVE TO PLAY

ELITE



VIDEOGAMING IS STILL a relatively young industry but we can say with conviction that no game has had the same impact as *Elite*. It wasn't just the wireframe 3D graphics that caused jaws to drop. The open gameplay – almost a space precursor to *Grand Theft Auto* in its ambition – made the game so utterly absorbing. Later titles such as *Eve Online* have taken obvious influence from Braben and Bell's Eighties gem, but *Elite* is all the more remarkable for having been put together in just 22K of code. And while so many games operated under the same restraints, few broke out with as much flair. Ironically, Braben says that videogaming has yet to begin. In that sense, he does his own game a major disservice.

ZARCH



BRABEN'S GAMING FOLLOW-UP to *Elite* was *Zarch*, another three-dimensional affair for the Acorn Archimedes, which went one better than *Elite* in that the wireframe graphics were advanced with solids. Gamers used the mouse to control a craft and it became popular in schools up and down the land – you might recall trying *Lander*, the demo upon which *Zarch* was built. Braben says that *Zarch* is his finest non-*Elite* game. It was a personal triumph for him. On other formats, the game was rebadged as *Virus*, but it lost little of its impact. *ACE* magazine scored it a whopping 979 out of a possible 1,000.

FRONTIER: ELITE II



WHEN YOU PRODUCE a game as exhilarating as *Elite*, then the pressure is undoubtedly on to produce a sequel that lives up to its predecessor. *Frontier: Elite II* was that sequel, created for the Amiga, Atari ST and PC but put together with limited help from Ian Bell. In our interview, Braben talks of his delight at being able to shape the game in his own way, but he didn't tinker massively with the formula. There was still no narrative to speak of and the gameplay was fundamentally the same. Some didn't like the real-world physics and felt it needed more action, but it sold in bucketloads and was a fine, playable successor.

ROLLERCOASTER TYCOON 3



ALTHOUGH BRABEN WAS not involved in the actual production of *RollerCoaster Tycoon 3*, the game was one of Frontier Developments' massive hits. As gaming became more advanced, so team sizes increased. David began to take more of a management role, which, in our interview, he admits to preferring. The theme park simulation strategy game, *RollerCoaster Tycoon*, was developed by Chris Sawyer. He was a consultant on this third game, which was developed by Frontier. Sawyer had worked with Braben on conversions of *Virus* and *Frontier: Elite II*, and contributed to *Elite Plus* on the PC, making him an important part of Braben's success.

LOSTWINDS



BRABEN IS USED to making an impact, but even he did not foresee how important *LostWinds* became when it was released on the Nintendo Wii. It grew from an idea that won a Game of the Week competition at Frontier. Designer Steve Burgess was looking at ways to use the Wii Remote in a game and believed that a title in which players controlled the wind had potential. The game was released as a launch title for the WiiWare downloadable game service to amazingly positive reviews, and in 2009 a sequel was produced. It appears that Braben and his company still have the ability to amaze, even in today's hard-to-please society.

dots'. But you had to draw them again and again in a moving perspective and it took 10 or 20 seconds to draw them all up, so I was really disappointed. I was expecting it to be magical, you know; something really interesting to behold.

RG: Did you give up on BASIC?

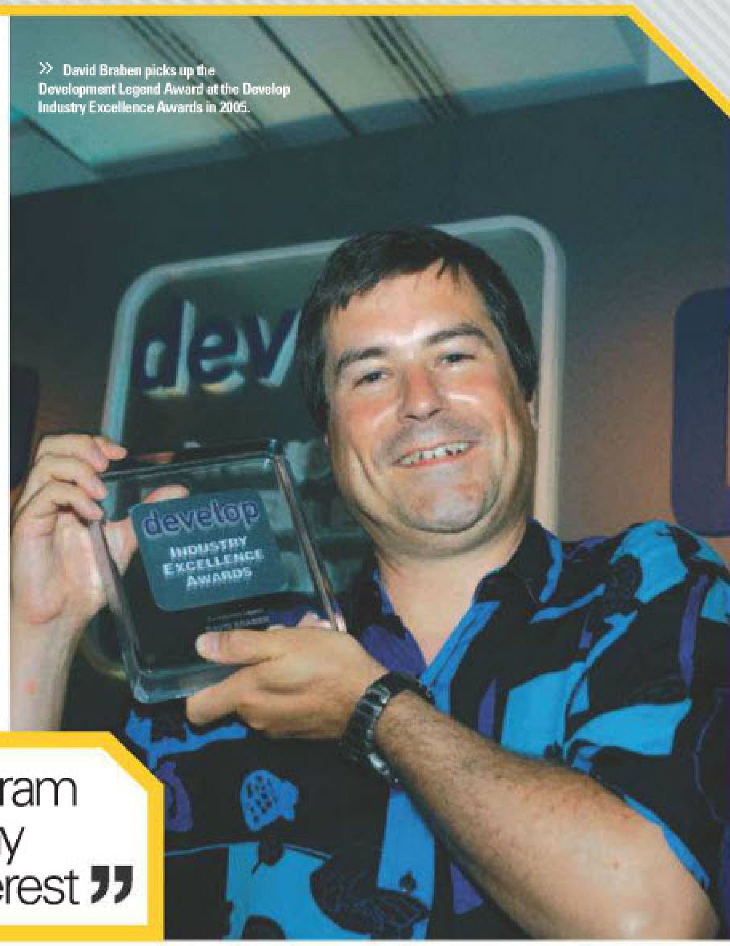
DB: I started learning machine code. But I suppose the link between astronomy and gaming was ironic in that my very early program was driven by my astronomical interest.

RG: Was there something of a parallel between astronomy and programming? Were they both appealing because they allowed open-ended exploration and the pushing of boundaries, or is that a bit of a strained comparison?

DB: That's probably a bit strained. I think – and it's not just astronomy but most science – that there are actually great vast areas that we know pretty well nothing about or we have various sorts of understandings of to some degree, but they're not complete. And with programming, there's just the fascination of what you can do with it. It's like building a fantastic structure from bricks. Bricks are very simple but you can make amazingly complex structures, and I suppose one of the things I learnt then was that by very, very simple steps you can get things that appear to be extremely complicated. I don't know if you know about mathematic functions like the Mandelbrot set, but I remember being amazed at how, with such a simple equation, you can get such a complex outcome. I think it's a whole exciting, fascinating thing to do from a programming point of view. And what I'll say is that the things that I was fascinated with back in the Eighties in terms of computing still exist. I suppose all of this is what's behind the sort of things we know with the *Elite* galaxy.

RG: How did you get started on *Elite*?

DB: Well, I'd put a lot of time into playing around with 3D graphics and 3D spaceships, and how to draw them, and how to draw them very quickly, and then I met Ian Bell at university and he was working on a game called *Free Fall* with Acornsoft, and I thought, 'Oh, it would be excellent to make a game from this and publish it.' I showed him my spaceships flying around with sort of 3D star fields and things like that.



» David Braben picks up the Development Legend Award at the Develop Industry Excellence Awards in 2005.

> "My early program was driven by my astronomical interest"

RG: How receptive was he?

DB: He was very receptive. But the problem we had was that, fundamentally as a game, it would just be too empty, so we just, you know, we talked about how we could make it more interesting, have a galaxy to fly around trading and all that sort of thing, and that's where *Elite* was born. I mean, trading came from the need for an excuse, almost a justification for why the player was doing what they were doing. We didn't want a game that just took ten minutes to play.

RG: Did you feel it would be a success from the start?

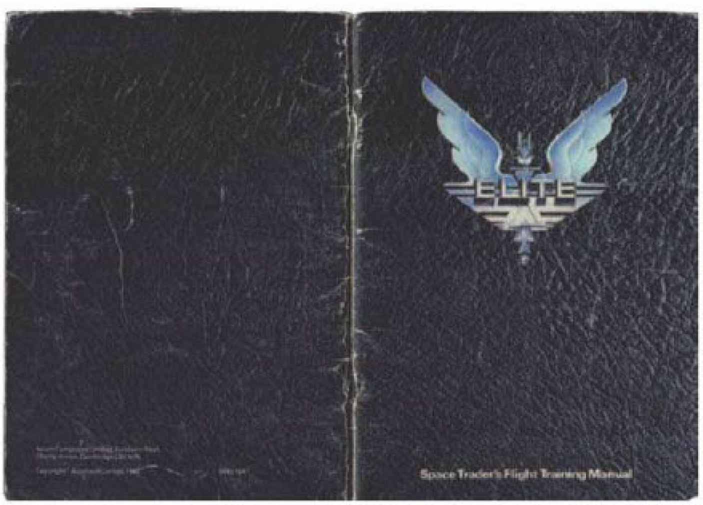
DB: Well, we knew it wasn't similar to other games out there at the time and so when we came to getting the game to market, we started to struggle. We'd already been turned down by publishers and I think I've said a lot publicly about Thorn EMI rejecting the game. I think the point was the game was very different to what was out there and so we were confident that it was going to do really well.

RG: What was your biggest fear?

DB: I think really, certainly my biggest fear was someone else getting there first, doing a good 3D game before we did, and I was obviously delighted that it didn't happen. But it's one of those things that once it's there, I thought other people would see it and go, 'Oh wow. I will do one like that,' and we would just be one of many. I think we were very lucky in that we had the field to ourselves for quite a while.

RG: Can you take us through how you went about visualising *Elite*?

DB: We didn't really have any doubts about what we were doing because we were writing the game for ourselves and we were just hoping that there would be other people like us. That this was a game we would have liked to play was the point. The bigger doubts were either that we were going to get somehow ripped off, or someone else would do a similar game and come out before we did, you know, because why were we in any way special? We were lucky really. We thought maybe



someone else had started before us and kept it secretive.

RG: Was it difficult juggling programming with your studies?

DB: Yes, it was a challenge because the masters for *Elite* went off for duplication about a week before my end of final exams. So that was difficult balancing priorities.

RG: How did your friends react to the game and the time you spent on it?

DB: They probably thought I was an idiot, but nothing changes. I'm sure they still do. [laughs] Good friends were supportive. They just thought it was a bit of fun – you know, a job on the side. I think they were mostly critical actually, but in a good way.

RG: Did you envisage setting up a company when you first had the idea for *Elite*?

DB: No, the company came a lot later actually, because even after *Elite* and then several other games were released we worked with other people but worked with them as contractors rather than employees, you know, or a common company or whatever. And really the company came out of just the need to be able to put together a much bigger team and to sort of formalise it all.

RG: Without wishing to jump ahead too much, you also created *Zarch* for the Acorn Archimedes and you produced it in three months. Again it was 3D – are we right in saying that you're not interested in 2D?

DB: I was just really fascinated with 3D. And once I'd done it, I became very familiar with it. It was a very strong differentiator. Other people didn't have it, if that makes sense, so games with 3D stood well clear of the huge number of 2D games that were around.

RG: Do you still have a preference for 3D games?

DB: Yes, but it depends what for. The movement doesn't have to be in 3D, but the richness of the imagery benefits from it. I mean, even if you think of most 2D games, they're still fundamentally 3D. They're just someone who has drawn a 3D impression on a 2D square. In the same way much of the motion of *LostWinds* is 2D, it's still in a 3D world because it looks beautiful. I think there's a lot of false distinction made in many ways because most 3D games are 2D in terms of motion. You know, there's very little up and down in a lot of 3D games. You know, look at *Call Of Duty*: it's only just 3D in terms of motion. It's a fantastic game and no one would say it's not a 3D game, but it really depends what you do with it.

RG: So when you look back to 2D games such as *Jet Set Willy*, how did you view them?

DB: I found them very frustrating but quite fun. I remember… oh, what was it called? The one with the big duck flying around and little ostriches going up and down ladders.



RG: *Chuckie Egg*?

DB: *Chuckie Egg*, that's the one. You know, some of them were quite addictive and quite fun with interesting puzzle mechanics. But, it's a bit like saying to a chef, 'You like doing desserts. What about this?' I think there's space for all of them. I did enjoy a lot of them but I was very much more focused around 3D. And my heritage was around the BBC Micro. I didn't have a Spectrum until much later so I didn't really play any Spectrum games, so by and large I didn't get to grips with many of the 2D platformers that were well-known back then.

RG: Did you look at those games and think, 'I don't want lives. I don't want time limits'?

DB: Yes, these games didn't influence *Elite* directly; it was almost the opposite. What annoyed me with a lot of these 2D games is not that any one game was poor; it's just they were all very derivative of each other and they all had the same expected playthrough time – a huge frustration factor, which I thought was not necessary. You know, in other words, you'd do the same piece of gameplay over and over and over again until it ground you down or eventually you managed to succeed. It caused some problems – certainly some publishers, like Thorn EMI, were not ready for it, as they had an expectation for three lives, score, and ten-minute playthrough times.

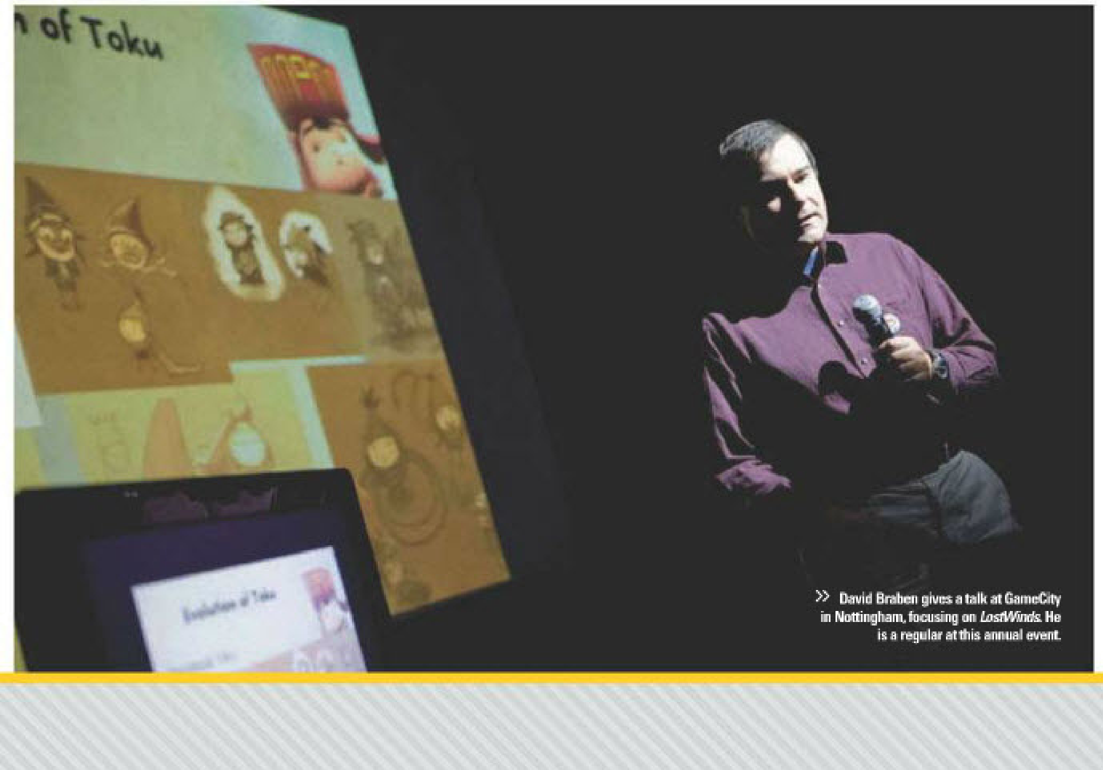
> **"** Some publishers were not ready for it, as they had an expectation for games **"**

RG: Do you think in some ways, then, that repetition has been bad for the reputation of gaming?

DB: I think it's a lot of the reason that many parents have an impression of games being very damaging, because some games are very repetitious. I mean, one of the beauties of looking at **Retro Gamer** now is most of the games that **Retro Gamer** refers to are the games that were really good at the time. I think we all tend to forget, much as, you know, the pop charts of the Seventies and Eighties were absolutely full of tat. There were lots of rubbish games around that we've forgotten about, which is maybe just as well.

RG: What was the worst game you played at that time?

DB: God, they all run together. I remember *Horace Goes Skiing*, thinking, 'Is that really the game?' I was quite shocked at how poor it was. There were a great many games that were okay, but there were just so many retreads of previous games. I would occasionally go into the shops to have a look at what was coming out and I thought, 'Wait up. That's the exact same gameplay mechanic as this other game. It's just they've changed the characters.' That was particularly the case with licences at that time. I'm trying to remember the exact ones. I remember the *Ghostbusters* licence stood out on the Commodore 64 as actually having some novel gameplay, but, in general, film games were really



» David Braben gives a talk at GameCity in Nottingham, focusing on *LostWinds*. He is a regular at this annual event.

*NUMBER CRUNCHING

David was just **19** when he created Elite. Ian Bell was **20**

David is now in his **27th** year in the gaming industry

David married Katharin Dickinson in May **1993** in Cambridge

David was awarded the Development Legend Award by Develop magazine in **2005**

Elite was originally released in **3** versions: for the Acorn Electron Tape, BBC B tape and BBC B disk. It ended up on **17** different formats

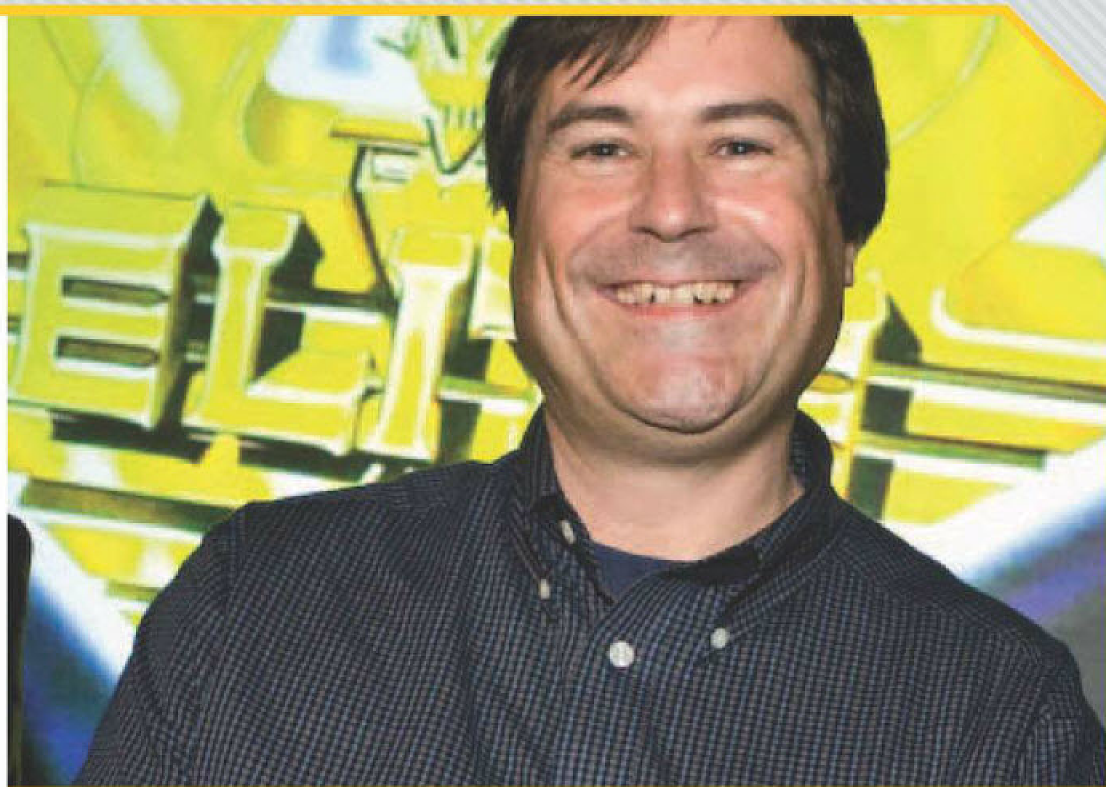
Elite's universe contained **8** galaxies, with each galaxy containing **256** planets

Elite scored **5** stars in Beebug in **1984**

Ian Bell estimates that Elite sold **600,000** copies in total

Retro Gamer's poll to find the all-time top retro game in **2004** put Elite at number **1**

David employs more than **200** people at Frontier Developments



» Of all Braben's successes since 1984, his first game *Elite* still ranks as his number one.

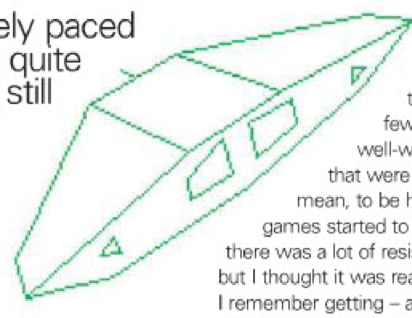
almost verbatim copies of other games but with different imagery attached. Yes, so I think there were a lot of quite poor games, as well as some very good ones.

RG: Such as?

DB: Well, by the late Eighties and early Nineties, I think there were a lot of good games. I remember *Populous* being a really nice breath of fresh air, and also, you know, prior to that, during the Eighties there were an awful lot of quite nice, clever mechanics. They're sort of isometric 3D games. They had some quite interesting puzzles.

RG: Do you think it was easy to make a game that stood out back then, given the repetition that you point to?

DB: Well, I don't think all the games were repetitive. I just think they would write a few that were. I think games today have something unique and memorable about them. When I think back, I really enjoyed *Defender*, from Williams. It was a very nicely paced game and quite difficult. It still fitted into the mould of other games with the sort of three lives, getting an extra one every now and again, but it felt different. The mechanic was different, the fact that the screen scrolled… It broke new ground.



RG: How has gaming changed today, do you think?

DB: We've now got a whole load of 3D shooters: first-person shooters. And the ones that really are memorable and stand out are the beautifully executed ones that often bring in new mechanics. I mean, compare *Call Of Duty: Modern Warfare 2* with some of the other less successful games that are trying to do the same, in the same sort of arena. It's because *Call Of Duty* is doing such a good job of it. The same was true of the Eighties. You know, there were games that were essentially 'me too', and then there were a few conspicuous well-written games that were really lovely. I mean, to be honest, when games started to move into 3D there was a lot of resistance to it, but I thought it was really refreshing. I remember getting – a lot later now – *Mario 64* on the Nintendo 64, and I thought that was wonderful. That was really good and it was a great transition from the 2D *Mario*. It kept the spirit but actually introduced a whole load of new gameplay elements.

RG: How important are graphics to games nowadays?

DB: It's important to create games that look good, but that doesn't necessarily mean they have to be photorealistic. The most important thing is to entertain people while enticing them in. If you look at something like Pixar's desk lamp, it draws empathy from the viewer even though it's not human, so you don't have to produce something that looks exactly like real life for it to be engaging. The representation is the most crucial thing. But visuals are as important now as they were back then and I do think we need to develop human behaviours in games – that's essentially animations – mostly subtle and backed up by good artificial intelligence. Players want a certain

level of realism so human characters must have eyes that look away or engage us directly, depending on the circumstance. We need the small visual facial clues like blinks, smirks and so on and we also need in-game conversations to have some sort of mood, to be able to break them off and interrupt people to influence the ongoing dialogue exchange. If you're saying something important and someone walks away, you'd be really annoyed and would probably let them know.

RG: Do you look at contemporary games, then, and think how massive you could make *Elite* if you produced another sequel?

DB: Yes. But I won't be drawn on the obvious next question!

RG: When will *Elite 4* be released?

DB: There it is…

RG: Okay, so when you made *Elite*, did you feel that a raft of 'me too' games would follow?

DB: Yes I did, and I was surprised there wasn't. I mean, there were, but there weren't very many.

RG: And why is that?

DB: Looking at things like *Jet Set Willy* and the number of games that it spawned, there were huge numbers. With *Elite*, I think it may well be that it was the step of going from nothing to something 3D. Programmers had to understand 3D, whereas with *Jet Set Willy* and games like that there were a lot of tools around to help you do it, which I think perhaps was why there were a lot of 'me too' games of that type. *Elite* had that extra expertise and you had to have a bit of mathematical knowledge or it could have become very hard. Very hard indeed…

RG: You worked with Ian Bell on *Elite*. How did you find working in a pair?

DB: It was great. Writing *Elite* was really good. We both worked very, very hard. Thereafter, I think Ian lost motivation. It was much more hard work then, and then, after *Elite*, we went our separate ways.

RG: With the *Elite* sequel, you worked alone. Was it hard?

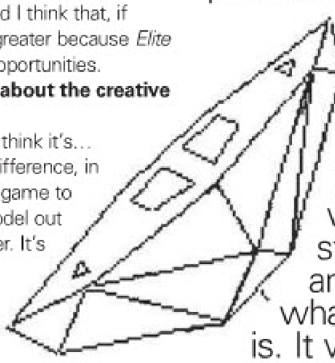
DB: It was great. It felt good at first. You feel, 'Oh wow, I can do what I like now.' It was only after that that I decided I really needed a team to be able to do a game in a much shorter time because expectations of what's in the game changed dramatically. I think we'd [David and Ian] have carried on working together because Ian was great to work with when we were doing *Elite*, but I think he got other interests and the hunger had gone.

RG: Did your hunger remain?

DB: Well, I think that… I mean I wasn't particular driven by the money of it. I was more driven by the excitement. And I think that, if anything, that got greater because *Elite* created so many opportunities.

RG: Was it more about the creative process for you?

DB: Yes, exactly. I think it's… you know, it's no difference, in a sense, building a game to building a fancy model out of Lego or whatever. It's that fun of creation and going, 'Wow, I made that', and it is a real buzz to see something you made in the shops.



RG: You've said in the past that you are concerned that the UK gaming industry is suffering due to tax breaks being offered abroad. Is enough being done to protect games developers in Britain?

DB: I have heard that the UK games industry is bigger than the UK film industry and the UK television industry put together. There is little doubt that the industry will grow further as it matures. The risk is this growth will continue to happen abroad, until we no longer have critical mass in the UK.

> "I wasn't particular driven by the money of it. I was more driven by the excitement"



RG: You also said during your talk at GameCity that you felt the industry had yet to begin. What did you mean by that?

DB: I feel that we haven't yet seen the birth of gaming and that when people look back in years to come they will question when it started. I think they will point to a stage at some point in the future rather than at any point in the past to date. We need to stop being so keen on mirroring the film industry. Instead, we need to step back and analyse what gaming is. It was a while before filmmakers recognised that film was a narrative medium, and I think it's been a while now to recognise that games are not necessarily a narrative medium. When you look at a film like *Star Wars*, which I love to watch, you realise that the actual narrative is rather simplistic and actually quite dull. But you are immersed into a world very different to our own, and that is what gaming is about. You don't necessarily have to have a story because the player forms their own by exploring their own world.

RG: Going back to your games and looking at *Frontier*, if there was any criticism, it was that the space combat was too realistic. Some of our readers feel that it could have had more of an arcade method of ship-to-ship combat.

DB: It was probably a mistake, at least the way it was realised in the end.

RG: So what non-*Elite* game are you most proud of?

DB: That's an interesting one. I suppose *Zarch* because it came out in such a short time; such difficult circumstances, you know. It was a real challenge to get it out. I had three months from having a prototype machine to the game having to ship. That's the fastest I've ever done a game, but I'm quite proud of the result.

RG: And if you had to go back in time, would you change anything about *Elite*?

DB: To be honest, messing with the past is a strange thing. If, for example, we had added some wonderful feature, which meant that *Elite* came out a few months later, then perhaps it would not have done so well, because the following year Acorn was taken over by Olivetti. If it were not so successful then maybe it wouldn't have gone onto other platforms.

It reminds me of the fable of the millionaire businessman who started his career not being able to read and write. When asked, 'Wow, what if you could read and write?', he replied, 'Then I would have got the job as a clerk, and would probably still be a clerk.' Timing and luck is very important in business, and being in the right place and time is key.

RG: If you hadn't co-written *Elite* and started on a career in games development, what do you think you'd be doing today?

DB: I think, given that I was always fascinated with 3D, if I hadn't met Ian, say, or we decided not to work together or whatever, or we fell out a bit earlier, I would like to think that I would have still done a game. I was already planning to write one before I met Ian Bell. I would still have done a 3D game. It would have still been spaceships because I already had spaceships. It may have some of the factors of *Elite*. I would guess it wouldn't have been as good because often, you know, two people looking at a problem is better than one, so I would imagine that I would have still done games but it would have been different. And if that hadn't have worked out, I think I would have been a research scientist.



» [Amiga] The insectoid Thargoids are one of the *Elite* series' recurring enemies.



» David Braben and Ian Bell at the time they created *Elite*.



» [PC] Chris Sawyer, famous for *Transport Tycoon* and *RollerCoaster Tycoon*, began his career with Frontier.

YOU ASK THE QUESTIONS

We were inundated with questions for David Braben, who managed to answer a good selection of them

Why was docking in *Elite* made so blimming hard?
People were 'hard' in those days! More seriously, we didn't set out to make it hard; if anything, we set out to make it easier. The problem is it is something that is fundamentally tricky, aligning a ship in 3D and matching rotation rates, while your elbow is stapled to the table in that you can only move in certain directions.

Which game do you wish you had written yourself?
A tricky one. Some of Miyamoto's games stood out as games to be proud of, especially *Mario 64* and *Zelda: Ocarina Of Time* on the N64, so I would choose those!

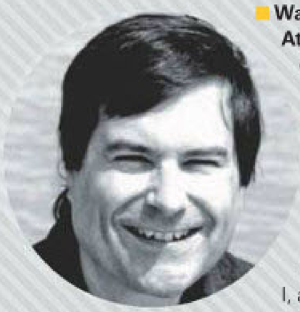
Who's your favourite Doctor Who?
Jon Pertwee, I think, although I quite liked Tom Baker in some of the episodes. Perhaps I'm showing my age!

Was *Star Raiders* an influence on *Elite*?
No. It probably should have been, but neither Ian nor I were all that aware of games on 'other platforms', as neither of us had, or could afford, an Atari 800.

Which would you rather be: a manager of a large, successful software house, or a hands-on, backroom coder once again?
No question: running a software house, as the things that are possible with a large company are simply impossible otherwise.

Are there any projects you regretted never finishing?
Sometimes I wonder how things might have turned out. The most obvious one was *First Encounters* – if Gametek hadn't been involved, how it might have turned out.

I remember reading that you placed a little note inside the Electron you used to do the *Elite* conversion. Has it, to your knowledge, ever been found? Any clues to where that machine might have ended up? This could be the start of a treasure hunt…
No, I don't know if it has been found. Electrons were pretty tough machines, so there was not a lot of cause to look inside them. Perhaps someone bought one second-hand from Acorn?



Was there an Atari 800 version commissioned?
No, though we did want to do one. But I think by 1984 it was low on the list, sadly. We had our work cut out doing versions of *Elite*, both Ian and I, and a number of very diligent contractors working with our ugly code on 17 different platforms!

Do you think that you will ever work with Ian again or is there too much animosity?
To be honest, I think it is unlikely.

With the success of the current Nintendo formats, any plans to convert the *Elite* series to them, or to do a Virtual Console release?
We consider a lot of things… Of course, we have been involved with development on the Wii, with *LostWinds* being a major success. We just wrote this game for ourselves, and that's one of the reasons why we enjoyed the process so much. It was produced by 12 people over four months, so it harks back to the early days of games development.

Computer games come and go, but what are your feelings knowing that you released a truly timeless classic?
Proud!

Why you must play...

DRAGON NINJA



[Arcade] "Please, Mr Ninja, don't stand on my Porsche."



[Arcade] Acrobatic women attack on the train.



[Arcade] "Here he is. Let's take him down."

ACCORDING TO THE CHINESE ZODIAC, 1988 WAS THE YEAR OF THE DRAGON. AND ACCORDING TO JAPANESE ARCADE COMPANY DATA EAST, 1988 WAS THE YEAR OF DRAGON NINJA



IN THE KNOW

- » **PUBLISHER:** TAD CORPORATION
- » **DEVELOPER:** IN-HOUSE
- » **FEATURED HARDWARE:** ARCADE
- » **GENRE:** SHOOT-'EM-UP
- » **RELEASED:** 1988
- » **EXPECT TO PAY:** £150-£250

It was the last hurrah for the short-lived pure 2D brawler genre. Like *Kung Fu Fighter*, *Dragon Ninja* only allowed movement on two planes. There was no moving 'towards' or 'away from' the virtual camera, and yet DECO's game shone brightly with huge, well-animated sprites, great sound, innovative levels, and the cheesiest plot in beat-'em-up history. "President Ronnie has been kidnapped by the ninjas. Are you a bad enough dude to rescue Ronnie?"

You (and an optional a friend) must take on the ninjas, using an array of kicks and punches. Holding down the attack button unleashes a flaming punch capable of felling multiple foes. Power-ups include extra health, extra time, knives, and nunchucks – and, boy, will you need them.

Dragon Ninja begins on a regular city street – a regular city street with ninjas attacking from all directions. Blue ninjas throw punches and kicks; greys throw shuriken, smoke bombs or makibishi (spikes); and red ninjas attack with knives or nunchucks. You're assailed by Lycra-clad women, dogs, leaping swordsmen... and that's just the first level.

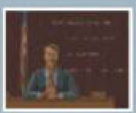
Subsequent battles occur on the back of an articulated truck, a forest, a sewer, a train, a cave, and the enemy base. The transport-themed levels have a single path to follow, with dangerous gaps to leap over. Other levels have 'high' and 'low' paths, so two players can attack different enemies in parallel. Each zone climaxes with a boss encounter and level seven sees *Dragon Ninja* arriving on his personal helicopter, for the final showdown.

If there's one thing that sets this game apart from its rivals it's speed. *Dragon Ninja* has many fast-moving enemies all attacking at once. But since the 'dudes' can fight back with equal haste, the experience is exciting, not overwhelming.

During your mission, you'll spot some classic game references. Besides the obvious, there's an almost-subliminal nod to a famous Konami franchise in the train level. 'Kikuchi Co Ltd' (on the truck side) is the name of both a real-life automotive component manufacturer and *Dragon Ninja*'s designer. He put another 'Kikuchi' logo on a ship in his next game, *Sly Spy*.

Dragon Ninja underwent a name-change for its US release: *Bad Dudes Vs Dragon Ninja*. Dogs were added to the final battle, making it harder. Ronnie's thank you message was changed to

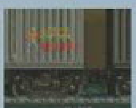
WHAT MAKES IT UNIQUE



RONNIE
Who wants to rescue a princess, when you can rescue the President of the USA? Sadly, it's not the one who played the saxophone.



FLAMING PUNCH!
Hold down your attack button, and your torso catches fire. Release it to perform a 'flaming punch' capable of knocking foes into next week.



CROSS PROMOTION
Dragon Ninja was one of the first arcade games to advertise other titles – including *Karnov*, *Chelnov*, and *DECO* – by the same company.



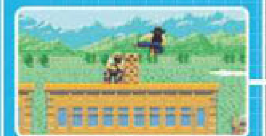
THEY'RE EVERYWHERE
Double Dragon was more popular, but three or more enemies on screen caused major slowdown. *Dragon Ninja* could handle nine at full speed.

INFLUENCES

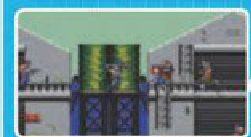
The games that influenced and have been influenced by **Dragon Ninja**



■ **KUNG FU MASTER** (ARC) 1984
The original 2D brawler introduced scrolling fisticuffs with an army of foes. It had it all: changing levels, a kidnapping, end of level bosses...



■ **EXPRESS RAIDER** (ARC) 1986
This title allowed players to fight on a moving train, jumping from carriage to carriage. *Express Raider* also had dangerous coyotes to attack the player.



■ **GREEN BERET** (ARC) 1985
This knife-'em-up introduced fast-moving foes coming from all directions. It was also the first platform brawler/shmup with a two-level playfield.

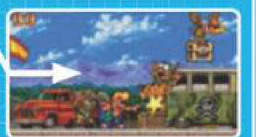




■ **SLY SPY** (ARC) 1989
Think *Dragon Ninja* was full of US patriotism? *Sly Spy* really flew the flag. This *Bond*-like classic also cross-promoted many of DECO's earlier hits.



■ **GOLDEN AXE** (ARC) 1989
A fighting game ending on a serious note? After Ronnie and his famous burger, the gloves were off. *Golden Axe* has a great surprising epilogue.



■ **SPIN MASTER** (ARC) 1994
Data East kept the 2D scrolling platform/brawlers going, and *Spin Master* was a fun Neo Geo title. Two players and dual-level gameplay.

> "The one thing that sets this game apart from its rivals is speed"

include the infamous "Let's go out for a burger, ha ha ha." And the credit sequence now had the dude(s) appearing outside the White House with Ronnie and his Secret Service detail. Unlike the original, there was no enemy roll-call, just the game credits accompanied by the presidential theme *Hail To The Chief*.

Gaming mags gave *Dragon Ninja* enthusiastic reviews. *Crash* called it "hardly original, but penny-pinchingly addictive". *C&VG* liked its "fast-moving sprites, with astonishing clarity". And *Sinclair User* was even more spirited, naming it Beat-'Em-Up Of The Year.

Dragon Ninja's home conversions began arriving just three months after those of *Double Dragon*. Data East was itching for a fight, running magazine ads with comparison shots of the various ports. The advertising copy pulled no punches: "*Bad Dudes* makes *Double Dragon* play like a dinosaur – one soon to be extinct." We're not sure the battle was so one-sided. Sure, *Dragon Ninja*'s 8-bit ports were better than *Double Dragon*'s, but the reverse was true for 16-bit owners.

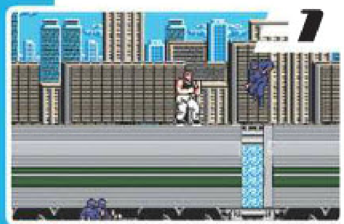
The Spectrum version impressed with its level accuracy, the Amstrad with its speed, and the C64 conversion with its detailed backgrounds and sprites. A year later, Data East released a NES/Famicom conversion, with terrible sprite flicker but accurate levels and gameplay. The 16-bit ports were another story.

The Amiga version scored 4% from *Amiga Power*'s Stuart Campbell. He suggested the programmer "forgot the jump function", which would render the truck and train levels impossible. The publisher disputed this, visiting the magazine to demonstrate the move. For the record, instead of a simple upper diagonal, you need to press up, then release the joystick, then press left or right. No, we can't do it either. *Amiga Power* then published a revised grade, increasing *Dragon Ninja*'s score by just ten points, to 14%. Ouch.

These days, a *Dragon Ninja* PCB will cost you around £30-£40, and fits any JAMMA cabinet with a horizontal monitor. *Dragon Ninja* never got a sequel. 2.5D brawlers like *Final Fight* and *TMNT* set the standard, and 2D brawlers went the way of Betamax video. But today we salute this fun title. So put on your sweatpants, strike a pose, and yell 'I'm bad'.

THE CONVERSIONS

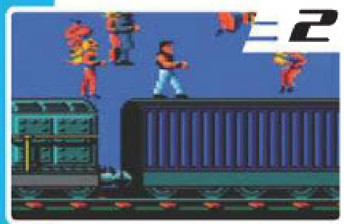
How the various versions compare



1 NES

BEST VERSION

Yes, the sprites flicker terribly, but *Bad Dudes* plays really well on the NES, with fairly accurate level designs, bosses and music. For once, your flaming punch actually *is* super. But there are some strange inclusions, like the alternating two-player mode, and two hits required to kill red ninjas.



2 AMSTRAD

Amstrad fans get lots of fast-moving baddies, but some of the more interesting foes have been dropped. Punches and kicks connect well, and nunchucks/jumpkicks are quite deadly. However, the flaming punch is useless, levels are longer but less accurate, and the bosses are very, very stupid.



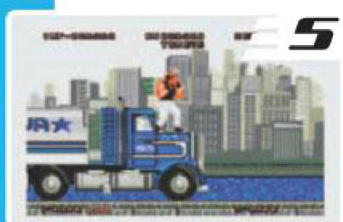
3 ZX SPECTRUM

Spectrum users can enjoy large, detailed monochrome sprites. The levels are more accurate than the Amstrad equivalents. And unlike the C64 port, punches/kicks work well. Sadly, turning around is slower and more frustrating than it should be. And the flaming punch 'auto fires' (instead of charging up) rendering it useless.



4 COMMODORE 64

Great music, backgrounds and hi-res sprites, but frustrating gameplay. Many foes have been omitted and those included require pixel-perfect hits yet injure you without any difficulty. You'll end up jumping around desperately trying to land a strike. And again, the flaming punch is a weedy, insipid joke.

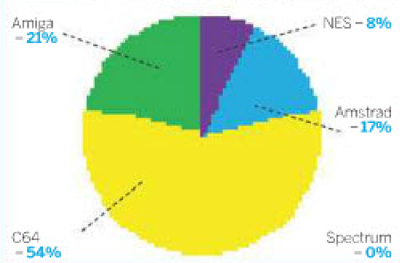


5 AMIGA

WORST VERSION

It has the original arcade intro and a two-player simultaneous option. Backgrounds are average, with lots of fast-moving but jerky sprites. You have the choice of reasonable sound effects or crap music. But all of this is irrelevant, due to the game-destroying 'jump' controls.

FORUM OPINION



"Wasn't there a PC-Engine version? I remember playing it on something that felt almost arcade perfect"
– Britnostalgic

"It must have come out around the time that we were upgrading to the new 16-bit machines but couldn't afford Amigas"
– paranoid marvin


SONY
PlayStation
RESET
1
2
L
R
SONY
PlayStation
SELECT
START
ANALOG

PlayStation



THE NAME PLAYSTATION HAS BECOME SYNONYMOUS WITH VIDEOGAMING, BUT SONY'S ROUTE INTO THE INDUSTRY WAS ANYTHING BUT STRAIGHTFORWARD. JOIN DAMIEN MCFERRAN AS HE CHARTS THE HISTORY OF WHAT IS ARGUABLY ONE OF THE MOST IMPORTANT CONSOLES OF ALL TIME

It's almost impossible to conceive it now, but prior to the 32-bit PlayStation's launch in 1994 there were real doubts in the media over its chances. Over 100 million hardware sales later, such pessimism seems woefully misplaced, but it's easy to forget just how many hurdles Sony had to overcome to make a success of its first piece of videogames hardware – and media scepticism was the least of those problems.

The PlayStation concept actually has its roots way back even before the 16-bit generation had hit the marketplace – 1988, to be precise. Always thinking a few steps ahead of its rivals, Nintendo was actively courting manufacturers to create some kind of expanded storage device for its Super NES console, which was in development and due to hit the market in just over a year. Sony – in conjunction with Dutch electronics giant Philips – was working on a new format called CD-ROM/XA, a new type of compact disc that allowed simultaneous access to audio, visual and computer data, making it thoroughly compatible with the medium of interactive entertainment. Because Sony was already being contracted to produce the SPC-700 sound processor for the SNES, Nintendo decided to enlist the electronics manufacturer's assistance in producing a CD-ROM add-on for its 16-bit console.

For Sony, it was a dream come true. Having been instrumental in the production of the ill-fated MSX computer format, the firm never hid its desire to become a key player in the burgeoning videogame business. Therefore, an alliance with what was unquestionably the biggest and most famous name in the industry would not only help elevate Sony's standing; it would also enable the company to set the wheels in motion for its ultimate plan: to put its consumer electronics experience to good use and produce its own videogame hardware. The industry was growing at an alarming rate thanks largely to Nintendo's hugely successful NES and Game Boy systems, and Sony was keen to obtain a foothold.

The initial agreement between the two firms was that Sony would produce a CD-ROM expansion for the existing SNES hardware and would have licence to produce games for that system. Later, it was supposed, Sony would be permitted to produce its own all-in-one machine – dubbed PlayStation – which would play both SNES carts and CD-ROM games. The format used by the SNES-based version of the PlayStation was called 'Super Disc', and Sony made sure that it held the sole international rights – in other words, it would profit handsomely from every single SNES CD-ROM title that was sold. It was a match made in heaven: Sony would instantly gain a potentially massive installed base of users overnight as the SNES was a dead cert to sell millions of units. SNES users would upgrade to the new CD-ROM add-on when they knew that Nintendo's cutting-edge games would be coming to it, and Sony would make money on each software sale. What's more, once the all-in-one PlayStation was launched, Sony would gain even more in the way of profits and become a key player in the videogame industry. The man behind this audacious scheme was Ken Kutaragi, the engineer also responsible for producing the aforementioned SNES sound chip.

However, behind the scenes Nintendo was predictably far from happy with the proposed arrangement. It was very protective of its licensing structure, which allowed it to extract massive royalties from third-party publishers. Allowing Sony leverage in this sector would only damage Nintendo's profitability; the Kyoto-based veteran reasoned that it should be making the majority of the profit on SNES CD sales, not Sony. The plan – if it came to fruition – would ultimately benefit Sony far more than Nintendo: the former would merely be using the latter as a way of getting a ready-made market share and would eventually become

SPECIFICATION

Year released:
1994 (Japan), 1995 (US/Europe)

Original price: ¥39,800 (Japan), $299.99 (US), £299.99 (UK)

Buy it now for: £10+

Associated magazines:
PlayStation Plus, Official PlayStation Magazine, Play

Why the PlayStation was great…
Some would argue that the videogame industry in the mid-Nineties was in dire need of a boot up the backside, and the PlayStation delivered this kick. Technologically groundbreaking and supported by a wide range of third-party developers, the machine is home to countless classic titles. While some of these games have aged badly, most remain just as essential today as they were over a decade ago.

INSTANT EXPERT

- The Sony PlayStation is the first videogames console to sell over 100 million units worldwide
- *Gran Turismo* is the system's bestselling title, with 10.85 million copies sold
- The PlayStation can generate 360,000 flat-shaded polygons per second
- With only 2MB of main RAM, the PlayStation struggled with 2D titles that required lots of animation frames, while its rival the Saturn fared better thanks to the fact that it had twice the amount of memory and could be expanded still further with a separate cartridge
- Approximately 7,900 different games were produced for the PlayStation during its 11-year lifespan
- Cumulatively-speaking, PlayStation software sales stand at an astonishing 962 million units worldwide
- Each Sony Memory Card came with 128KB of storage for save game data. Higher capacity third-party cards were also available
- The console's impressive sound processor can handle 24 channels of audio
- Early versions of the machine were afflicted with skipping FMV and sound, thanks to the poorly designed nature of the CD drive. Later models rectified this issue, but early adopters still shudder at the memory of having to place their beloved consoles upside down in order to get them to work properly
- Early UK adverts for the machine featured SAPS – the Society Against PlayStation – a fictional organisation that was committed to preventing the console from ensnaring the country's youngsters

a determined rival as a result. Nintendo president Hiroshi Yamauchi was famous for being particularly ruthless in his business practices, but what happened next is one of the most infamous double-crosses in the history of the videogame industry.

It was at the 1991 Consumer Electronics Show that Nintendo dropped the bombshell. Sony went to the event full of enthusiasm and on the first day proudly announced the details of its new alliance with Nintendo, as well as news of the Super Disc format and the impending development of the SNES-compatible PlayStation. Sony had less than 24 hours to soak up the palpable level of excitement generated by this press conference before Nintendo confirmed that it was, in fact, working with Philips on the SNES CD-ROM drive. Yamauchi had gone behind Sony's back at the last minute to broker a deal with the Dutch company – a deal that was predictably skewed in Nintendo's favour – leaving Sony publicly humiliated at the very moment it had expected to usher in a new era as a serious contender in the videogaming arena. At the time, Yamauchi and the rest of Nintendo's top brass were suitably pleased with their skulduggery; such swift action had prevented Sony from taking a sizeable bite out of the company's profits. As it happened, the planned Nintendo-Philips alliance resulted in little more than a handful of risible Nintendo licences on the CD-i, and the abject failure of Sega's Mega-CD seemed to lend credence to the viewpoint that expanding existing consoles was a mistake, so while Nintendo had protected its best interests by leaving Sony at the altar in such degrading fashion, it actually gained little else of note – aside from a dogged rival.



» Although SNK's Neo Geo system had used the same concept some years beforehand, Sony's decision to go with removable data storage for save game files was regarded by many as truly groundbreaking.

Sony had, by this point, poured a significant amount of cash into the proposed PlayStation concept. It had even moved as far as the prototype phase, with PC CD-ROM titles such as Trilobyte's *The 7th Guest* being mooted as possible launch games. Despite the tumultuous events of the 1991 CES, a deal was signed between Nintendo and Sony that would allow the latter to make its machine compatible with SNES CD-ROM titles – with the proviso that Nintendo would retain all software royalties. Although it was nothing more than a clever stalling tactic by Nintendo to keep Sony from entering the market on its own, this proposed alliance nevertheless kept the increasingly frustrated Kutaragi and his team busy. However, by 1992 it had become clear that such a union was going nowhere. Sony cut off communication with Nintendo and the company was painfully close to withdrawing from the arena for good.

Only Kutaragi's intense resolve and determination prevented the PlayStation dream from ending in 1992. During a meeting with Sony president Norio Ohga in order to decide the future of the project, Kutaragi made bold claims about the kind of machine he had been developing. He argued that the 16-bit PlayStation, with its reliance on a union with the incumbent – not to mention untrustworthy – Nintendo, was a dead end. The only option was to go it alone and create a brand new piece of hardware capable of shifting 3D graphics at a hitherto unprecedented rate. When Kutaragi's ambitious proposal was greeted with derision from the Sony president, he presented another side to his argument: could Sony's pride allow it to simply walk away when Nintendo had so blatantly abused its trust? By making



» UK gamers were treated to the amusing 'Society Against PlayStation' advertising campaign, complete with its dorky spokesman.



VARIANTS PLAYSTATION'S MANY FACES

SNES PlayStation

The fruit of Sony and Nintendo's ill-fated union, this machine would have played SNES carts and SNES CD-ROM software. Although it was never officially released, it formed the basis of the 32-bit machine. Legend has it that Sony still has 200 prototype units secreted within its Japanese headquarters.



Sony PlayStation

The groundbreaking original. This piece of hardware kick-started an era of Sony-led market dominance that would last for the best part of a decade. Early units suffered from skipping FMV and CD audio thanks to their entirely plastic CD-ROM mechanism; later versions had metal parts that fixed the issue



Net Yaroze

Aimed at bedroom coders, the Net Yaroze came with development tools that allowed users to create their own games, some of which turned up on official demo discs. It also had no regional lockout, so games from any part of the world could be played on it. Naturally, it was far more expensive than the standard PlayStation



PSone

Released in 2000, this revised machine was smaller than its predecessor, clocking in at a minuscule 38x193x144mm. An official LCD screen accessory could be attached to make this the first portable PlayStation, albeit without an official battery. It outsold the PS2 in its first year on sale





COMMUNITY THE BEST PLAYSTATION RESOURCES ON THE WEB

The PlayStation Museum
playstationmuseum.com

A truly amazing site that is dedicated to preserving the history of Sony's machine. Here you will find reviews and features, as well as lots of data relating to unreleased titles or prototypes. Well worth a visit if you have a few hours to spare.



PlayStation DataCenter
psxdata.snesorama.us

A must for collectors, the PlayStation DataCenter has listings for almost every game released on the format. It even has high-quality cover scans to download. A real gold mine of information for dedicated PlayStation fans.



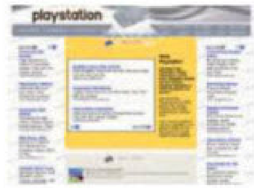
Push Square
www.pushsquare.com

While it's not strictly aimed at the PSone, Push Square is nevertheless one of the net's leading Sony sites. It covers retro-related news items as well as the PlayStation's offspring. If you're a Sony fanboy, then you should bookmark this site for sure.



Absolute PlayStation
absolute-playstation.com

Another site that covers the entire PlayStation brand, Absolute PlayStation is packed with reviews, guides, blogs and even a chat forum. It's also regularly updated with the latest and greatest Sony games, so if Sony is your passion, this is the place to be.







» [PlayStation] *PaRappa The Rapper* was one of the first music action titles and helped kick-start the recent explosion in rhythm-based gaming.



» [PlayStation] *Final Fantasy VII* was one of the PlayStation's most significant releases, not just in commercial terms but from a critical viewpoint as well. It became the first JRPG to gain truly international acceptance.

the PlayStation project a success, the company would experience the sweet taste of revenge at the expense of its one-time ally.

Kutaragi's speech hit a nerve, and early in 1994 Sony confirmed that it was entering the videogame arena with its own console, and even formed subsidiary Sony Computer Entertainment in order to oversee the new venture. Keen to differentiate this new project from its previous namesake, Sony branded it the 'PlayStation-X' – this gave rise to the abbreviation 'PSX', which is still used even today, even though the 'X' was later dropped when the console was officially launched. Early reports were impressive, with some developers confidently proclaiming that Sony's console would blow away the competition. Despite the company's wide entertainment portfolio – which included music label CBS Records and Hollywood studio Columbia Tri-Star – Sony boldly decided not to focus on the multimedia market, as its rival Philips, with its CD-i and 3DO, had done, to its great cost. Instead, the PlayStation was unashamedly proclaimed as a dedicated gaming machine, with SCE's director Akira Sato confidently stating that: "If it's not real-time, it's not a game" – a thinly veiled criticism of other CD-based consoles and their reliance on FMV titles that featured live actors but little interaction. The sheer power of the new system shocked other players in the industry; Sega of Japan president Hayao Nakayama was reportedly so furious when he read the specs for the PlayStation that he personally visited Sega's hardware division and gave them a stern talking to. His tirade would result in the Saturn, Sega's entrant in the 32-bit console war, getting an additional video processor to boost its graphical muscle, but this would make the system harder to program for – an issue that had severe ramifications in the future.

> **"By making it a success, Sony would experience revenge at the expense of its one-time ally"**

When you take into account Sony's position as one of the world's foremost electronics manufacturers, it's hardly surprisingly that the original PlayStation was a highly desirable piece of kit. Unmistakably a games console but showcasing a hint of mature design, the machine seemed to speak to those gamers who had cut their teeth on the likes of the NES, Mega Drive and SNES and were now ready to progress to an entirely different level of challenge. Everything from the two-pronged joypads to the removable Memory Card storage system seemed to drip sophistication. Sony later revealed the numerous hardware designs that had been considered before the final version was decided upon; this was the work of a company that was taking its entry into the videogames market very seriously indeed. Kutaragi – and the entire project in general – had come under fire from high-level Sony executives who argued that videogames were toys for children, and therefore, one of the PlayStation's key aims was to challenge that view. As a result, the final design for the machine was sleek and serious, mimicking the appearance of a top-end piece of audio-visual equipment rather than a games-playing device.

However, while this posturing caught the attention of gamers, some industry experts were less enthused, citing Sony's poor track record in the industry up to that point. The company's software publishing arm – Sony Imagesoft – had so far failed to generate any titles of note, pushing half-baked movie licences such as *Cliffhanger* and *Last Action Hero* onto store shelves to the complete indifference of the games-buying public. Indeed, software was one area in which Sony was at a distinct disadvantage, as Sega and Nintendo had highly talented internal development teams that traditionally produced the best software for their respective consoles. Sony

Developer Viewpoint

Robert Troughton (programmer, Destruction Derby)

■ "IT WAS LATE in 1994 that Sony – and myself – were launching into the console games business. Straight out of university, I wasn't really sure what to expect. Reflections, a game developer based in the North East, were just beginning work on a new genre of racing game: *Destruction Derby*. The premise was simple: a racing game which you win not by coming first – although that helped – but by smashing your competitors' cars to a pulp. From starting in January '95, we had only nine months to complete the project, with a team consisting of just three programmers and one artist. The PlayStation was technically leagues ahead of the competition, with amazing 3D graphics and CD-ROM technology. I can't remember whether any of us saw daylight for those nine months, but I'm not sure that any of us cared all that much. Sony loved us for how fast we were creating the game – they gave us a release date that would tie in with the PlayStation's US and European launch – the press were all over us and it was clear that the game was going to be a success. *Destruction Derby* went on to sell millions. The PlayStation sold many times more, and I've stayed in the industry ever since, still doing what I was doing back then: hacking away at code and trying to squeeze every last bit of juice out of whatever platform I'm working on – and thankful to Sony for giving me this opportunity."



Station to Station



■ RELEASED LATE IN the machine's lifespan, the PocketStation was a self-contained handheld similar in design to Sega's Dreamcast Visual Memory Unit. Its announcement caused a surprising degree of excitement, and many industry insiders confidently predicted that this miniature console was Sony's attempt to crack Nintendo's stranglehold on the handheld market. Dubbed a "personal digital assistant", it stored save game data just like a typical PlayStation Memory Card but could also play crude games on its 32x32 dot matrix LCD display, although, predictably, the quality of these titles was well below what could be experienced on Nintendo's Game Boy. An infrared connection was also included so users could exchange data without having to connect their PocketStations to their main console. Launched in 1999, it was only supported by a handful of titles and sadly never saw release outside Japan – although a release was obviously on the drawing board at some juncture as several Western games came with PocketStation functionality.

lacked this key feature, although it was at least attempting to rectify the issue by courting highly rated UK code shop Psygnosis, which would go on to publish vital launch titles such as *WipEout* and *Destruction Derby*. Still, there was an overwhelming feeling that although Sony was perceived to be doing everything right, it would ultimately fall at the final hurdle; Sega and Nintendo would continue to fight it out, just as they had done during the previous format war. 'Sony doesn't know games,' the critics cried. Thankfully, the firm managed to secure the assistance of a company that certainly did know something about the industry: Japanese arcade veteran Namco.

Pac-Man creator Namco was undergoing something of a resurgence thanks to the incredible impact made by its 3D coin-op *Ridge Racer*. A texture-mapped tour de force, the game was unquestionably a cutting-edge piece of programming and had given its parent company the ability to leapfrog persistent rival Sega in arcades. When Namco revealed that it was porting its hugely successful racer to the PlayStation, it caused quite a stir. The notion that Sony's new console could replicate an arcade title that cost thousands of pounds created astonishing levels of expectation, and this only increased when the first shots of PSX-based *Ridge Racer* were released to the public. Coded in an incredible six months, the game might not have been arcade-perfect, but it did enough to cement Sony's position as a key player, purely because it made Sega's heavily delayed in-house conversion of its *Daytona USA* coin-op look decidedly second-rate by comparison. Elsewhere, the PlayStation's visual prowess was demonstrated by exquisite third-party titles such as *Jumping Flash* and *Battle Arena Toshinden*, the former being a groundbreaking, if shallow, 3D platformer and the latter a likeable, if uninspired, one-on-one brawler. *Toshinden* couldn't hold a candle to Sega's *Virtua Fighter* port when it came to gameplay, but it was nevertheless a fundamental game in Sony's arsenal because it looked far, far better. From screenshots alone, it was clear that the PlayStation had the edge in terms of raw power.

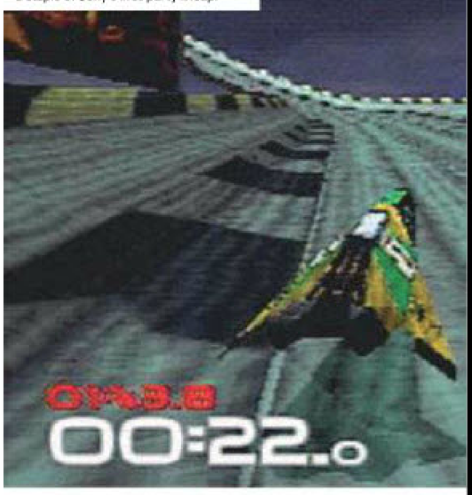
The Japanese launch took place on 3 December 1994 – a handful of days after Sega had shifted 200,000 Saturn consoles on its first day of sale. Priced at ¥39,800 (around £250 in today's money) the PlayStation sold strongly, although the Japanese public seemed to gravitate towards Sega's console more, possibly because *Virtua Fighter*, despite the slightly unimpressive Saturn conversion, was the country's number one arcade title at the time. Both formats started out fairly evenly, but as the months rolled by Sony was able to deliver on its promises thanks to sterling releases from Namco, Konami and Capcom, while Sega's in-house projects stalled. Ironically, Sony's reliance on third-party developers proved to be in its favour. Because it needed outside assistance, the company had made great efforts to get software support, while it could be argued that Sega was less active in courting developers. Sony had made the PlayStation as accessible as possible, and it was paying dividends.



» DMA's controversial *Grand Theft Auto* started its console life as a PlayStation release and made several appearances on the machine.

The technological gulf didn't do the PlayStation any harm, either; titles such as *WipEout* looked gorgeous, with transparent textures and eye-popping flare effects. Sega's machine lacked both of these embellishments, and, thanks to its complex dual-CPU setup, required the best coders to really get the most out of it. Meanwhile, third-party studios were getting stuck in to PlayStation game production, and a string of classic titles began to emerge. *Tomb Raider* – ironically a Saturn title originally – along with *Tekken 2*, *Soul Blade*, *Ridge Racer Revolution* and *Resident Evil* all contributed to the PlayStation's wide and varied catalogue of titles.

» [PlayStation] *WipEout* came to define the PlayStation's approach to gaming and is a staple of Sony's first-party lineup.



» Norio Ohga was Sony president during the genesis of the PlayStation project. He saw off apathy within the company to ensure that Kutaragi's dream came to fruition.





» Sony developed several different logos before finally settling on the one we now know and love.



» Sony Europe's Phil Harrison was instrumental in attracting quality developers to the machine and would eventually rise to the top of the company.

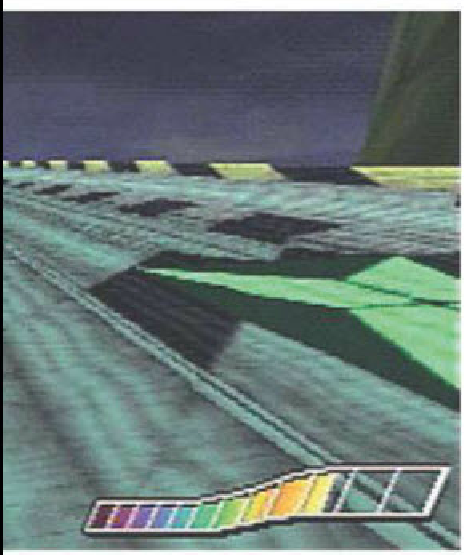








» Fraternising with the enemy: Nintendo's Shigeru Miyamoto samples *Crash Bandicoot* during the 1996 E3 show.



The Western launches were equally successful, with Sony managing to undercut the retail price of Sega's Saturn in both North America and Europe. In Europe, especially, Sony displayed a masterly grasp of how to market a games machine to a more mature audience. The company knew that those gamers who had grown up with the 8-bit and 16-bit consoles were gradually reaching adulthood and would therefore require more 'grown-up' gaming experiences. While Sega and Nintendo focused on building recognisable mascots to appeal to youngsters, Sony released the PlayStation with a range of software that was unashamedly adult in tone: the aforementioned *WipEout* featured a soundtrack that showcased the talents of real recording artists, such as The Chemical Brothers and Leftfield, while visceral top-down shooter *Loaded* not only featured excessive gore and allusions to transvestism but also enrolled the assistance of grebo-rock outfit Pop Will Eat Itself. One thing was clear: Sony wasn't aiming for the *Mario* and *Sonic* audience with the PlayStation.

Sega's challenge soon began to falter, and so Nintendo became Sony's next opponent. The firm responsible for such classics as *Super Mario Bros* and *The Legend Of Zelda* had been making confident noises about its cartridge-based Ultra 64 (later Nintendo 64) console for some time, and although it wouldn't be ready until 1996, Nintendo went to great lengths to encourage gamers to hold off on buying a 32-bit machine. Sadly, the decision to stick with the expensive cartridge format would cost the firm the support of one of its most prized third-party publishers: Squaresoft. Although the highly anticipated *Final Fantasy VII* had been confirmed as an N64 release, Square eventually switched development over to Sony's machine, citing the limited storage and high unit cost of cartridges. *Final Fantasy VII* was going to be the most epic game yet conceived, and it needed as much storage space as possible. Only CD-ROM could offer this, Square argued. Nintendo's loss was, of course, Sony's massive gain; published in 1997, *Final Fantasy VII* was a worldwide smash, selling 10 million copies in the process. This success established the console as the leading platform of its generation and subsequent system exclusives such as Konami's *Metal Gear Solid* and Polyphony Digital's seminal *Gran Turismo* cemented this lofty status even further.

With both Sega and Nintendo subdued, Sony's dominance was assured. So tight was the company's grip on the marketplace that even the launch of Sega's technically superior 128-bit Dreamcast in 1999 was unable to upset the status quo. With millions of units sold and a more powerful successor – the PlayStation 2 – waiting in the wings, 2000 saw Sony release a new iteration of its 32-bit console in the form of the PSone. Smaller, sleeker and sexier, it boasted enhanced functionally that allowed it to link to mobile phones and even supported a fold-down LCD display, giving it a small degree of portability. The revision was a triumph and enabled the ageing machine to remain relevant in a marketplace that was gradually leaving it behind in technological terms.

Sony ceased manufacturing the PlayStation in 2006, giving the console an impressive production lifespan of 11 years. During that time it redefined the world of videogames, granting gamers a taste of 3D visuals and making the oft-derided hobby a cool and relevant pastime. Of course, such activity earned Sony – and, by association, its console – a fair degree of scorn also, but few would have the temerity to debate the PlayStation's incredible influence on modern interactive entertainment. Without it, the gaming landscape today would be near-unrecognisable.

PlayStation

PERFECT TEN


01

TOMB RAIDER

» **RELEASE:** 1996
» **PUBLISHER:** EIDOS INTERACTIVE
» **CREATOR:** CORE DESIGN
» **BY THE SAME DEVELOPER:** FIGHTING FORCE

01 **Although her star** has waned a little over the past few years, there's no denying that Lara Croft remains one of videogaming's most enduring icons. Her 1996 debut was actually on the Saturn, as developer Core Design had traditionally supported Sega's consoles. However, it was the PlayStation version – released shortly afterwards – that was truly responsible for firing the delectable Miss Croft into the realms of global superstardom. Sequels followed as it firmly became a PlayStation series and arguably improved on the template, but the original game retains a near-legendary status.

GRAN TURISMO 2

» **RELEASE:** 1999
» **PUBLISHER:** SONY COMPUTER ENTERTAINMENT
» **CREATOR:** POLYPHONY DIGITAL
» **BY THE SAME DEVELOPER:** OMEGA BOOST

02 **The first *Gran Turismo*** was possibly the most technically groundbreaking release of the 32-bit era, and this sequel beefed up the already considerable experience by adding more cars, more tracks and even a rally mode. The title's visuals – already pretty mind-blowing in the original release – pushed the 32-bit hardware to the absolute limit, with Polyphony Digital's unique development software eking out every last drop of power from the PlayStation in its final years. Spanning two discs, *Gran Turismo 2* is arguably the definitive racing title of that era and still plays great today.



02

FINAL FANTASY TACTICS

» **RELEASE:** 1997
» **PUBLISHER:** SQUARE
» **CREATOR:** IN-HOUSE
» **BY THE SAME DEVELOPER:** DEW PRISM

03 **Released only in** Japan and North America, this strategy RPG arrived around the same time as *Final Fantasy VII*, which caused some confusion when gamers discovered that they actually had very little in common. Developed by the team behind *Tactics Ogre* – Square snapped up studio Quest prior to producing the game – *Final Fantasy Tactics* showcases gorgeous visuals, breathtaking music and a surprisingly mature and complex plot. It was recently released on the PSP in a slightly enhanced form.

METAL GEAR SOLID

» **RELEASE:** 1998
» **PUBLISHER:** KONAMI
» **CREATOR:** IN-HOUSE
» **BY THE SAME DEVELOPER:** INTERNATIONAL SUPERSTAR SOCCER PRO

04 **Hideo Kojima's magnum** opus set a new high watermark for storytelling in videogames, as well as introducing an entire generation to the wonderful stealth sub-genre. Solid Snake has gone on to become a household name, starring in more technically impressive sequels on the PS2 and PS3 consoles. However, hardcore fans maintain that this instalment remains the best, thanks largely to its tight plotting, memorable characters and judicious use of the host hardware.

RESIDENT EVIL 2

» **RELEASE:** 1998
» **PUBLISHER:** CAPCOM
» **CREATOR:** IN-HOUSE
» **BY THE SAME DEVELOPER:** DINO CRISIS

05 **The first title** established Capcom's reputation as master of the 'survival horror' genre, but it was the second game in the series that truly confirmed the company's god-like status. Offering the ability to play the story with two different characters – one to each of the game's two discs, with differences depending on which you play first – *Resi 2* mixed relentless zombie slaughter with intriguing puzzles and some of the best visuals seen on the PlayStation up to that point. It's unsurprising that series fans hold this entry in the utmost regard.



03


04


05

GAMES

The original PlayStation brought us a massive number of franchises that have become part of the gaming landscape today. Just take a look at the list below…



06



07



08

TEKKEN 3

- » **RELEASE:** 1998
- » **PUBLISHER:** NAMCO
- » **CREATOR:** IN-HOUSE
- » **BY THE SAME DEVELOPER:** SOUL BLADE

06 ***Tekken 2* had** proven that Namco was more than capable of taking on Sega's *Virtua Fighter*, but it was the third game that dazzled the most. Sceptics had feared that it would never appear on the 32-bit console, but Namco's expert coders managed to squeeze in every aspect of the coin-op to create a fitting pugilistic swansong for the ageing PlayStation. While the Tekken Force and Tekken Ball modes were superfluous additions to the domestic port, all of the important features were present and correct.

EINHÄNDER

- » **RELEASE:** 1997
- » **PUBLISHER:** SQUARE
- » **CREATOR:** IN-HOUSE
- » **BY THE SAME DEVELOPER:** BRAVE FENCER MUSASHI

07 **Famous for being** Square's one and only entry in the shooter genre, *Einhänder* is an incredible achievement. The team involved had no previous experience with this type of game, yet it managed to create a classic that is still talked about in hushed, reverent tones even today. Featuring a unique weapon system based on grabbing the ordnance of fallen enemies, *Einhänder*'s brilliance is made even more remarkable when you consider that Square hasn't ventured to the genre since its release.

FINAL FANTASY VII

- » **RELEASE:** 1997
- » **PUBLISHER:** SCE
- » **CREATOR:** SQUARE
- » **BY THE SAME DEVELOPER:** SAGA FRONTIER

08 **Having sold over** 10 million copies worldwide, *Final Fantasy VII* needs no introduction. Cited as the game that sold the Japanese RPG to the Western mainstream, this three-disc epic made the most of the PlayStation's technical capabilities to deliver hours of turn-based entertainment. It remains arguably the most popular entry in Square's evergreen franchise and has recently spawned several spin-off games and other projects, such as *Crisis Core* on the PSP and the *Advent Children* CGI movie.



09

CASTLEVANIA: SYMPHONY OF THE NIGHT

- » **RELEASE:** 1997
- » **PUBLISHER:** KONAMI
- » **CREATOR:** IN-HOUSE
- » **BY THE SAME DEVELOPER:** PROJECT OVERKILL

09 **The PlayStation has** a reputation for being something of a duffer when it comes to 2D titles, and to a certain extent, this is true. The console had only 2MB of RAM compared to the Saturn's 4MB, and this resulted in some lacklustre conversions. However, titles like *Symphony Of The Night* – coded with Sony's hardware in mind – were mind-blowing. Fusing 2D and 3D effects, Konami's designers created one of the most mesmerising titles of the generation. Look out for the limited edition European version, complete with art book and CD.

VAGRANT STORY

- » **RELEASE:** 2000
- » **PUBLISHER:** SQUARE
- » **CREATOR:** IN-HOUSE
- » **BY THE SAME DEVELOPER:** FRONT MISSION 2

10 **One of the** most ambitious role-playing games of the 32-bit era, *Vagrant Story* is epic in every sense of the word. Produced by the same team responsible for *Final Fantasy Tactics*, the game featured a deep and sometimes disturbing storyline, and lead character Ashley Riot has to rank as one of the most hard-edged protagonists in videogame history. *Vagrant Story* was recently re-released on Sony's PlayStation Network and can be purchased and downloaded for play on both the PlayStation 3 and PSP, and it even lives on through its shared universe with the *Final Fantasy Tactics* series and *Final Fantasy XII*.



10

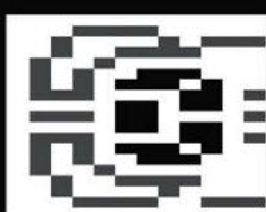
THE CLASSIC GAME





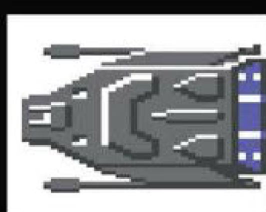
Eek! A super dreadnought has just appeared over each of the 15 planets in your galactic sector, and it's safe to say that they haven't just popped round to borrow a cup of sugar. In fact, they're draining planet cores to drive their power units – and they didn't even ask nicely.

Presumably due to the typical government cutbacks seen in every other shoot-'em-up ever, all that's available to take on these monstrous foes is a squadron of single-seat fighters. Each dreadnought is attacked in turn, your Manta engaging surface defences and enemy fighters before landing and activating a self-destruct sequence via a mini-game that looks suspiciously similar to something you'd find on a fruit machine. This can only be, as long-time C64 fans will know, *Uridium*.



THE MANTA

Your ship, the Manta, is the key to the game. Although it offers plenty of firepower via its dual guns, its manoeuvrability is more important. Learn to control your craft's speed and flips to avoid hostile foes and ensure that you don't smash into dreadnought shields and comms towers.



YOUR TRANSPORTER

The transporter is the first thing you'll see in each level of *Uridium*. It transports the Manta to the next dreadnought, and you're treated to a rather lovely animation as your ship exits to do battle. There's no practical reason for this item's existence, but it adds polish to the game.



HOMING MINES

Each of *Uridium*'s dreadnoughts has flashing ports on its surface. Be wary of these, because they house lethal mines that home in on your craft. Each mine only has limited fuel, and so if you can avoid it for a few seconds, you'll be fine – although later levels often launch them in pairs.

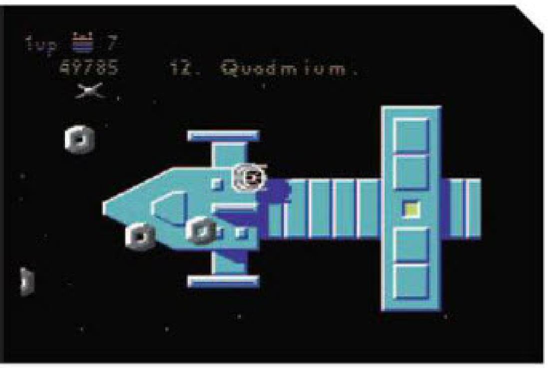


ALIEN SCUMBAGS

Enemy craft in *Uridium* increase in ferocity as you move through the game, but similar tactics work on even the highest levels. Ships in the game all have forward-facing guns, so stealthily sneak past and shoot them from behind. Waves are pre-set, so learn their movements and firepower.

MEMORABLE MOMENTS

WHY IS IT A CLASSIC?



Speed, focus and a strong foundation

Uridium arrived in 1986, before *R-Type*-style shooters with weapon upgrades invaded the C64, and so it might seem simple. However, Andrew Braybrook's *Paradroid* follow-up has plenty to engage the arcade-oriented gamer. First, it's fast: at top speed, dreadnoughts zoom past and you need lightning-fast reactions to survive. Secondly, the game is focused: it has its aims and achieves them with style and polish. Finally, the foundation is strong, frantic and fun, so much so that *Uridium* was followed by *Uridium+* on the C64 and an impressive, expanded but still action-packed Amiga sequel, *Uridium 2*.

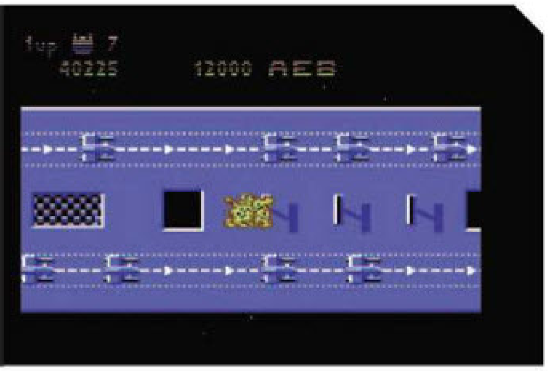
FLUID CONTROLS



A manoeuvrable Manta

Around the time of *Uridium*'s release, most C64 shoot-'em-ups had craft little different from the *Space Invaders* laser cannon – you could move left, right and fire, and if you were lucky, you might also be able to move up and down a bit. By comparison, *Uridium*'s beautifully animated Manta is hugely manoeuvrable, with a number of cruising speeds, and the ability to flip over to chase hostile aliens and fly at an angle, in order to squeeze through gaps between shields and communications devices that litter the dreadnought surfaces. Only by mastering the Manta will you make any progress in *Uridium*.

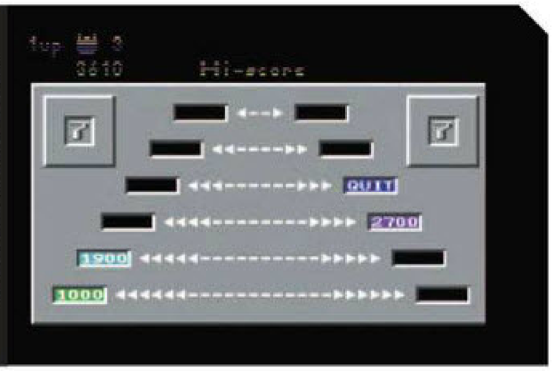
LEVEL DESIGN



Death from below

Much like Andrew Braybrook's previous games, *Gribbly's Day Out* and *Paradroid*, *Uridium* isn't an out-and-out shooter – you can't just wade in, all guns blazing, and hope to make it to the end of each level. Instead, you must map out each dreadnought in your mind, memorising danger areas, escape routes, clusters of Manta-destroying comms towers and shields, and the location of the primary landing strip that enables you to infiltrate the dreadnought's onboard system and blow it to kingdom come. Later levels are especially devious, with maze-like surfaces that require particularly skilful flying.

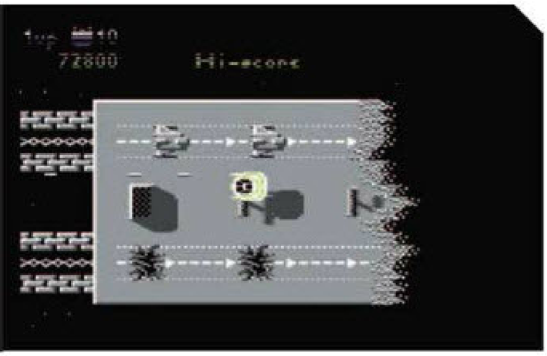
BONUS SEQUENCE



Don't be a quitter

We suspect that Andrew Braybrook perhaps quaffed a little too much coffee while putting together *Uridium*, our evidence being its bonus section. Whereas Jeff Minter's *Batalyx* – another 1986 C64 shooter with a bonus round – plonks you in 'psychedelic noodling land' if you fancy a break, *Uridium*'s end-of-wave respite comes in the form of a bonus game. Instead of enabling you to relax, it keeps the tension high, taking the form of a simple fruit machine-style timing test: at each 'level' you hit fire to hopefully select a chunky bonus rather than quit and return to the game proper.

PLAYER REWARDS



Die (again), alien scum!

Although rather lacking in red pixels, *Uridium*'s one of the more bloodthirsty games on the C64. True, you're not faced with the dying eyes of alien foes, but there is a rather vicious element to the game once a level's complete. Post-bonus round, you're informed that the destruct sequence has been primed, and you're then returned to the game. As the dreadnought vaporises before your very eyes, there's just time for one more fly-past, and you can strafe any remaining surface targets for bonus points, presumably yelling 'Take that, alien vermin!' as you do so.

STRANGEST CONVERSION



The Last Starfighteridium

Although very much designed for the C64, *Uridium* nonetheless made its way to a handful of other platforms. The ZX Spectrum port was particularly good, and there were workmanlike efforts for the BBC Micro and Amstrad CPC. By far the strangest conversion, though, was to the NES. Arriving in 1990, Mindscape's *The Last Starfighter* – released six years after the middling movie, making it a strange tie-in in itself – was *Uridium* in all but name. Some elements were altered – the main ship's different, and the transporter's absent – but otherwise this is a surprisingly faithful, if curious, NES remake of a C64 original.

What the press said… ages ago

Zzap!64 (94%)

"*Uridium* is truly an impressive game, immaculate in both its execution and conception. The Manta is very responsive indeed and is a pleasure to control, skilful handling providing a similar joy to that of *Defender*. Overall an excellent game that should be on every 64 owner's software shelf."

C&VG (10/10)

"Andrew Braybrook's *Uridium* is simply the best 64 game we've seen since *Fist*. It's good-looking, sounds great, and the action comes thick and fast. If you're a 64 owner and you don't rush out and grab this game, there's no hope for you."

What we think

Uridium might seem a controversial choice for these pages, and it's fair to say that it today feels a little basic and at times unforgiving. But the gameplay mechanics are great, and the combination of fast-paced shooting/survival and considered, devious level design ensures *Uridium* a place among the C64's best blasters, regardless of its relatively minimal nature.



IN THE KNOW

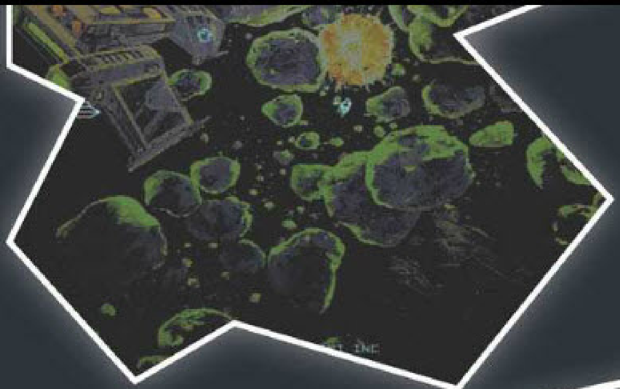
- **PLATFORM:** COMMODORE 64
- **PUBLISHER:** HEWSON CONSULTANTS
- **DEVELOPER:** ANDREW BRAYBROOK
- **RELEASED:** 1986
- **GENRE:** SHOOT-'EM-UP
- **EXPECT TO PAY:** £1

THE MAKING OF…

Under attack from Taito's Space Invaders, Atari responded with its own take on interstellar combat. To mark Asteroids' 30th anniversary, Paul Drury spoke to Ed Logg, Howard Delman and Lyle Rains about the game's creation

IN THE KNOW

- » **PUBLISHER:** ATARI
- » **DEVELOPER:** IN-HOUSE
- » **PLATFORM:** COIN-OP
- » **RELEASED:** 1979
- » **GENRE:** SHOOT-'EM-UP
- » **EXPECT TO PAY:** £500+ FOR AN ORIGINAL CABINET



ROIDS

It's late-summer 1979 and engineer Ed Logg is preparing for a trip to Old Sacramento, California. He packs the retrofit kit for *Atari Football*, designed to upgrade the plays and prolong the game's arcade life. Joining him on the journey is colleague Collette Weil, but Ed decides to take another companion along for the ride: the project he's being working on since the spring.

Once at the arcade, his baby is carefully placed among the rows of blinking cabs. There's no fancy silk-screen and the cabinet art is incomplete but the lighted panel clearly displays the name of this newborn: *Asteroids*. The proud father stands back and waits.

"A guy walks over and puts in his quarter," smiles Ed, "and he died three times in about 20 seconds. Then he reached out and put another quarter in. I thought, okay, if he's dying three times and still putting in another quarter, he must think it's his fault, not that the game has got it in for him. He died again, almost instantly. He put in quarter after quarter after quarter…"

He was to be the first of many. *Asteroids* epitomised the 'easy to learn, difficult to master' philosophy of game design and Atari shifted a staggering 75,000 units, making it its biggest selling coin-op. "I heard people saying we only made about half of the machines out there," adds Ed. "I've certainly seen counterfeit boards…"

Success breeds imitation, though the journey to that first field test in Sacramento actually began almost a decade before, thanks to a little inspiration from the daddy of all space shooters. "I'd played four-player *Space War* back in the early-Seventies on a PDP machine in the Stanford Research Lab," recalls Ed. "Down on campus in the Stanford Forum, they had two machines linked up and you could play for a quarter. Was I any good? Oh no! The other guys would cream my ass over and over again."

Though no maestro on this makeshift multiplayer cab, Ed undoubtedly knew what made a good game. His work on *Super Breakout*, released in 1978, proved he knew how to revisit an idea and add his own unique signature without losing the original appeal. But when his boss, Lyle Rains, called him into his office the following April, it was to discuss a game's failure to launch.

"Lyle was talking about an older game I remember seeing once and playing but it was just not fun," recalls Ed. "You were trying to shoot the other player but this asteroid was in the way. Players tried to shoot it – I know I did – even though it couldn't be destroyed. He said everyone just seems to shoot the rock, so let's create a game that lets you blow it up"

"I suggested the Asteroids idea more as a creative exercise than a full-blown project"

LYLE RAINS ON WHY EXERCISE IS GOOD FOR YOU

"I don't really remember what that old game was," explains Lyle of that pivotal first meeting. "It may have been something I had seen in the labs and subconsciously picked up on the asteroid theme. I think of *Computer Space* as being more of the inspiration for the two-dimensional approach. You see, the biggest hit videogame at that time, perhaps of all time, was *Space Invaders*, which was predominately one-dimensional player control – left and right – with all the threats approaching from above. It was basically *Breakout* with moving bricks and a gun, instead of a ball and paddle. I was seeking a more satisfying two-dimensional game with a similar addictive gameplay theme of 'completion': eliminate all threats. I believe I described the concept to Ed in a few sentences: little flying ship as in *Computer Space*; big rocks becoming little rocks; fly and shoot till they all go away. There was no great detail."



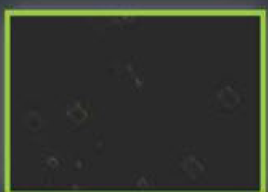
» Ed poses with a special version of his famous creation.

THE MAKING OF… ASTEROIDS

Rock On – Asteroids sequels



ASTEROIDS DELUXE (1980)
Dave Shepherd took Ed's code and added a shield and new enemies. Ed: "I was busy being a supervisor and had no involvement. I find it a little too hard." We agree. The killer satellite is just vicious.



SPACE DUEL (1982)
A colourful reworking by Owen Rubin, with inventive co-op play and wonderful spinning shapes. Ed: "My initial reaction was that it was very abstract, perhaps too abstract for the casual player."



BLASTEROIDS (1987)
Ed Rotberg added power-ups, ship morphing, branching levels, bosses and the ability to dock your ships in multiplayer for added firepower. Best played on an original cab with spinner controllers.

Though both men quickly agreed on the basics of the gameplay and indeed the name *Asteroids*, which emerged at this concept stage, they initially disagreed on the format of the project. "Lyle wanted to do it on raster and I said no, no, let's do it on vector," says Ed. 'I'd had some experience of working with vector technology. The higher resolution meant you had more control of where you were aiming, not just this blob."

Lyle chuckles: "Ed wanted to fool around with the new vector, or XY hardware before starting his next project. I suggested the game idea more as a creative exercise than a full-blown project. Obviously it took on a life of its own."

And the giver of life was hardware engineer Howard Delman. Howard had worked on many of Atari's post-*Pong* successes, including *Super Bug* and the first simultaneous co-operative arcade game, *Fire Truck*. Game development in those pioneering days of the mid-Seventies was not clearly divided into software and hardware roles, meaning that Howard had a handle on both of these emerging fields. Having joined Atari in 1976, he also remembers a project that had been floating around for quite a while…

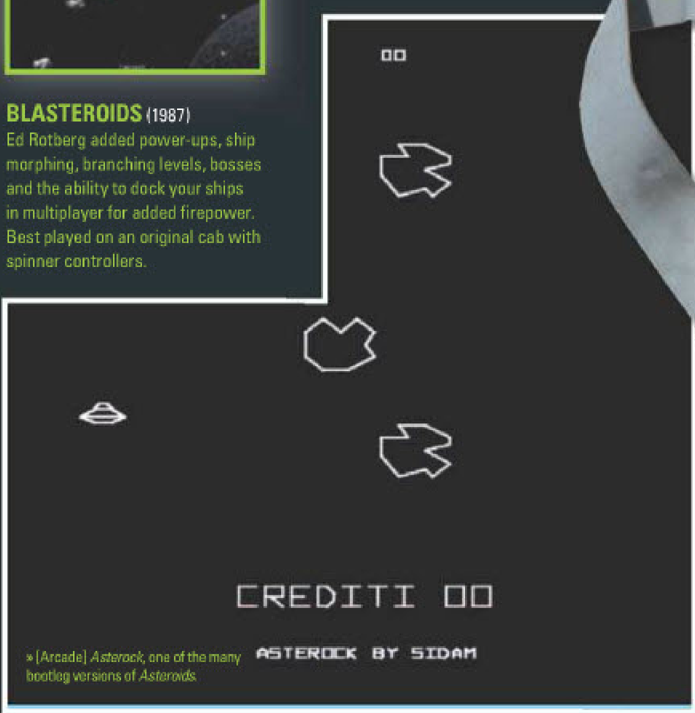
"There was this old game that had been worked on for a long time because no one could quite make it fun," he laughs. "It was originally called *Cosmos* and then became known as *Planet Grab*, a two-player game where you were trying to claim planets in space. The more you claimed, the more you scored, and you could steal planets from your opponent, too. As the game was being tweaked and people were trying to make it fun – because it really wasn't fun – someone made it so you could blow up the other guy's planets. And suddenly it was fun. Forget trying to steal his planets, just blow them up. You can see where this was heading… When they saw the vector hardware we were working on, they said 'Oh my God, that would be great for *Asteroids*'. Ed must have been the third programmer on that project. He came to me, I hooked him up with a board and he got to work."

And Howard still has that very board in his workshop, a mass of chips and wires and hand-scrawled notes. He's clearly proud recalling the story of how he came to be in charge of handling Atari's first steps into the shining light of vector game development.

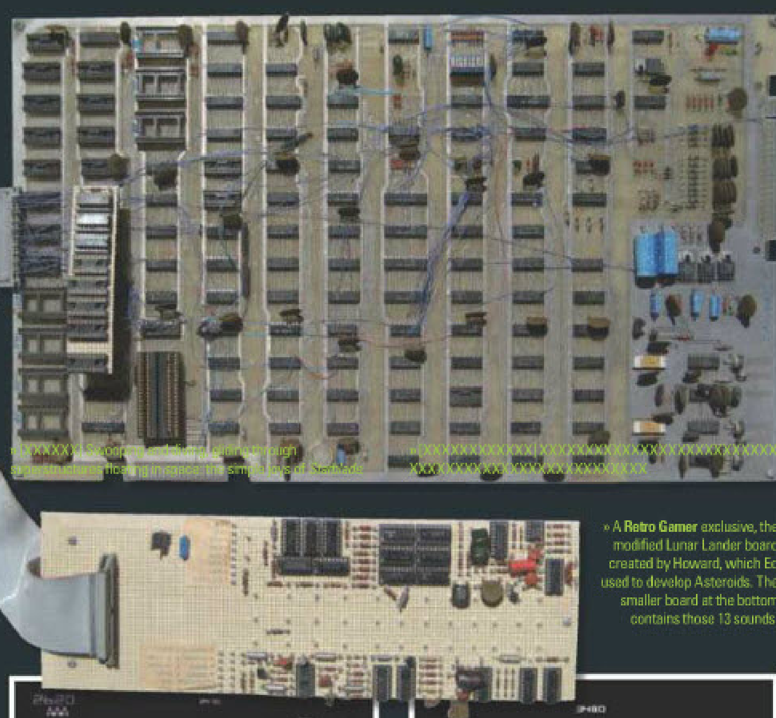
"In early-1978, vector games started to emerge, but not from Atari," he begins. "Atari had a research-and-development group in Grass Valley. They came up with an XY display system, or at least laid the groundwork for one, and came down to show it to us. It was really cool and we wanted it. They left it with us but it wasn't done, nor was it a platform to do games on. It was the basic hardware concept and I was given task of turning that into something we could use to ship a game. It was like I took this rough bit of clay and made it into something real."

Howard was tasked with not only shaping this fascinating technology into something useable, he also had to decide on a game idea to showcase this great leap forward. He settled on *Lunar Lander*, which became Atari's first vector game, released exactly a decade after the historic moon landings. He was joined on the project by Rich Moore and also one Ed Logg, who worked on the distinctive alpha-numeric character set used for the on-screen text and scoring. Thus when Ed received his customised *Lunar Lander* board, bolstered with extra RAM and some bespoke 'jumps and cuts' from Howard, he had some knowledge of the new hardware.

"Man, that thing was tiny," chuckles Ed. "This little four-by-four inch board with five buttons and wires coming off it, linked up to a screen. I started by getting the ship on screen. I wanted to see it flying around…"



» [Arcade] *Asterock*, one of the many bootleg versions of *Asteroids*.



» [XXXXXXX] Swooping and diving, gliding through superstructures floating in space: the simple joys of Starblade.

» [XXXXXXXXXXXXX] XXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXX

» A **Retro Gamer** exclusive, the modified Lunar Lander board created by Howard, which Ed used to develop Asteroids. The smaller board at the bottom contains those 13 sounds.



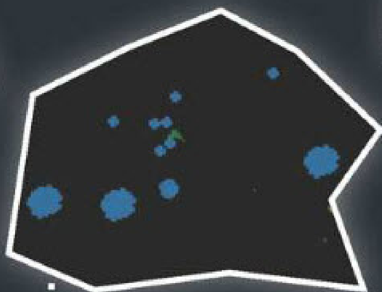


» [Arcade] Mr Bill makes a kill.

Send in the clones



MOONS OF JUPITER (VIC 20)
An impressive effort for the expanded Vic and much better than Simon Munnery's version for Bug Byte, famously described as "a pile of wank" by Jeff Minter.



ASTEROIDS (ATARI 5200)
The VCS version was passable given the limited hardware, but this upped the ante with a smoother, more authentic experience.



METEORS (BBC MICRO)
Acornsoft had a knack of producing superior arcade clones and this had schoolboys praying for wet lunch breaks so they could play it on the school's computers.



MINESTORM (VECTREX)
Okay, we're pushing it here as this doesn't even feature any rock blasting, but it's clearly inspired by *Asteroids*, has beautiful vector graphics and is utterly ace.

And what a thing of beauty it was, that graceful inertia as your tiny triangular ship thrusts through the blackness of space. Yet it wasn't always so. Ed had toyed with having no friction to decrease the forward movement of your ship (which meant you spent most of your time desperately trying to stop yourself), and with no inertia at all (which made the game too easy) before arriving at his happy medium. It was typical of Ed's approach to the game's development: experimenting with different settings, many inspired by those early battles on *Space War*, to see which delivered the best experience and always on the look out for fortuitous side effects.

"It was all ad hoc at this point," explains Ed. "There was no design document. How did I get those cool vapour trails? That was just a property of those old monitors. They have phosphor and phosphor glows. You put that much electrical excitement into the phosphor, it takes a while for it to cool down and not glow, so it seems to leave this trace behind it."

With your ship in motion, Ed sketched out different asteroid shapes and had them drift across the screen in increasing numbers. As you blasted them into smaller pieces, strategies began to emerge. Should you concentrate on the smaller rocks or take out the largest first? Should you stay put in the centre of the field or weave through the debris? The former felt like the safest option, so Ed decided the player was going to need an incentive to get them moving.

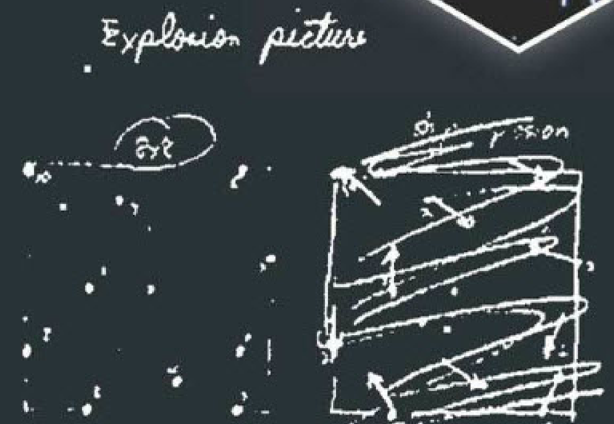
"I always wanted two saucers," he recalls. "A big one that fired randomly like cannon fodder to get you used to the concept that when you got down to fewer rocks, a ship was going to come out. The little saucer was about making you move. Run away, you're going to die if you stick around!"

Players developed a love-hate relationship with that little blighter. They loved the 1,000-point reward for shooting it, but cursed its deadly accuracy and increasing speed. Ed also employed a timer that steadily decreased, meaning respite between saucer attacks became ever shorter. "I wanted to discourage you from not shooting stuff. Get rid of those small rocks so I can send a new lot of bigger rocks out there, because more stuff on screen means more chance of an unfortunate collision."

Of course, if you were really in a tight spot, you could hit hyperspace and take your chances. On re-entering the playfield, there was a random chance of your ship exploding, its three constituent parts torn asunder and gently fading in one of gaming's most lonesome deaths. "You know, I should have put some algorithm in so that if there were lots of rocks on screen you didn't have much chance of blowing up, but with only a few it was a much higher chance," concedes Ed. "And I still have regrets about the placement of the hyperspace button. It should have been nearer my right thumb, so I didn't have to take my hand off thrust to hit it. You know, with hindsight I should have put a shield in instead. If you got hit it was decreased so you had a few chances. That would have given you some more strategy..."

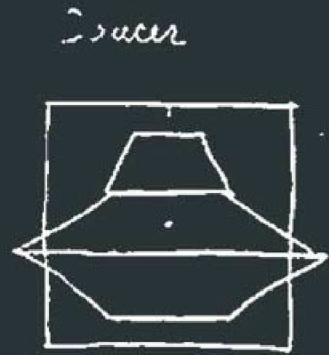
It's the only time Ed questions his design choices, but then he was getting positive daily feedback from his peers. The Atari labs were open-plan affairs, long halls with room for two or three games in development at any one time. Half a dozen staff would be based in each room, and engineers would wander between labs, passing comment and stopping to play as they went.

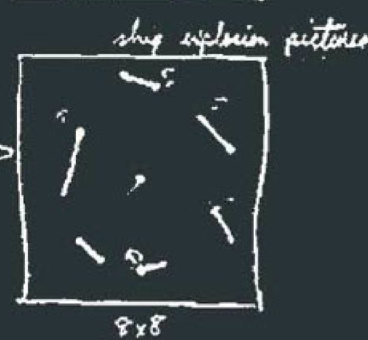
"Some engineers walking by would see a couple of asteroids floating across



» Designing the large saucer wasn't proving straightforward...

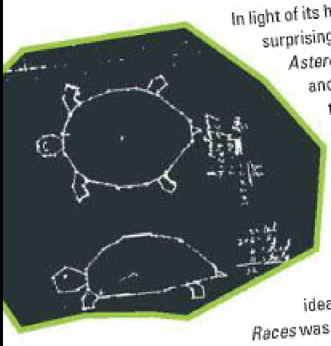






THE MAKING OF… ASTEROIDS

Turtle Power



In light of its huge success, it seems surprising that Ed never revisited *Asteroids* nor did he produce another vector game. He cites the unreliability of the colour vector technology and his desire to work on something new, though he does reveal the little-known tale of *Turtleroids*. "Every year, Atari Coin-op had an off-site brainstorming session where we discussed new game ideas. For many years the idea of *Turtle Races* was proposed. This was a game where you raced your turtle by continuously increasing your voice to get your turtle to move. Increasing too quickly caused the turtle to go into its shell for a while. The idea was always shot down. I'm not sure if we turned every game idea into turtle this or turtle that, but one year Frank Ballouz got up in front of everyone and said 'no more turtles!' Of course, we took it as a challenge. We had waiters bring drinks with wind-up turtles in and did everything we could think of in the way of turtles. Someone suggested we change the Gold Asteroids in the lobby of Coin-op Engineering in Sunnyvale to have a turtle instead of a saucer, so I changed the graphics and burned a special program to do this. Hence, *Turtleroids*."

» Ed's original sketches for the different rock shapes.



my screen and start humming the tune to Lawrence Welk's *Tiny Bubbles* just to tease me," chuckles Ed. "A lot of colleagues would come by and ask 'when are you leaving?' 'When can I play this game?' And you realise, okay, that's a good sign… Management would come in and check on progress. Lyle was certainly interested. He was, like, let's do a focus group, let's do a field test."

Yes, feedback from outside the company was overwhelmingly positive, too. Atari organised two focus groups in June 1979. On the 14th, they gathered together seven older players, veterans of *Space War*, and then on the 20th they tested *Asteroids* on nine children aged between 15 and 17, all *Space Invaders* fans. Ed and his fellow engineers observed proceedings through one-way glass and player comments were noted down meticulously. Ever the archivist, Ed has held on to these four pages of detailed feedback and it's fascinating to read how players first struggled to get to grips with the thrust button, requesting a joystick instead, and how the younger group, accustomed to taking shelter behind a base in *Space Invaders*, noted that you don't get a break in this game.

Ed is more circumspect when it comes to the value of these written responses. "I just look at their play and see what's going on. I always believe that if they don't get wowed immediately, you have a problem."

Players also commented on the way the sound effects built the tension, something Howard is especially proud of contributing. "That thump, thump, thump… I was really trying to do a heartbeat," he explains. "I sensed as the game sped up and you became more tense, your own heartbeat would speed up and I really wanted to keep them in sync. We didn't have sound chips back then so I created a hardware circuit for each of the 13 sounds by hand and wired them onto Ed's board myself."

Such was the intimate nature of creating videogames in those frontier days, and *Asteroids* stands as one of the period's crowning achievements. Released in November 1979, it went on selling for years, earning Atari an estimated $150 million in sales and a further $500 million in revenue from countless enthralled gamers.

While nothing can truly detract from the game's enormous success, issues did arise post-release. Some were clearly technical: accumulate too many extra ships and the game slows to a crawl, and on some machines, if you got down to just your ship and a single asteroid, the display would fade out. "That's the spot killer," declares Ed.

"If the game dies, the vector beam would just point at wherever you last pointed it and burn a hole in the screen," he continues. "We had a piece of circuitry so that if you don't move the vector enough it shuts it down. I wasn't given any technical numbers, so I put the score at the top and the Atari copyright at the bottom and thought that, along with the ship and at least one asteroid, that would be enough to disable the spot killer and the video display wouldn't be turned off… turns out it wasn't. As for the slowdown, if you have hundreds of ships, the game can't draw everything at 60Hz per frame. I wasn't clever enough to limit it to ten ships or something. Anyway, I thought Mr Bill would come out and blow you away…"

For our non-American readers, Mr Bill and Sluggo are characters from US variety show *Saturday Night Live* and became the unofficial names for the two saucers. The fact that Ed Logg received a cease and desist letter from their copyright holders, despite there being no reference to the Play-doh pair in the game itself, is an indication of how *Asteroids* had entered popular culture. And that was partly due to Mr Bill not doing his job…



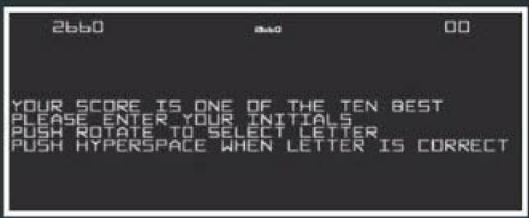
» Ed in 1983, after *Asteroids* and *Centipede* but before *Gauntlet*…



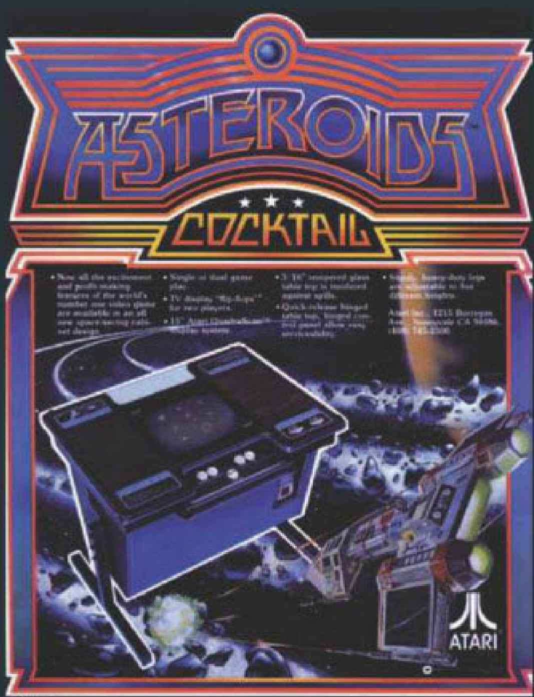
» The devilishly difficult *Asteroids Deluxe*.



» Scott Safran, whose *Asteroids* record still stands after 27 years.



» [Arcade] Ed took the idea for a high-score table from Exidy's *Star Fire*.



» An arcade flyer for the fancy cocktail cabinet.

Asteroids memories



Owen Rubin

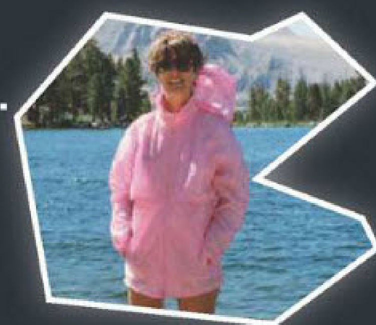
(CREATOR OF SPACE DUEL AND MAJOR HAVOC)

"*Asteroids* was being developed in a lab near mine. I used to go in and play late at night, sometimes until I filled up the high score table with my initials. Ed Logg would come in next morning, reset it, work on the game and come in the next day to find 'ORR' was in every spot on the table again. So he put in a check for 'ORR' and all other combinations of my initials so they'd be replaced with his. I sent a note telling him there was a bug till he told me what he'd done…"

Irene

(WIFE OF ED LOGG)

"*Asteroids* was my first experience of videogames. I did house sitting for some friends and they happened to have a machine. I'd play it when I was there and thought it was kinda fun and when they moved they gave it to me as a gift. Years later, I was introduced to Ed at a party by Ed Rotberg who said he'd like to introduce me to the best. No, I was not a groupie! I think Ed was supposed to sign my control panel. He still hasn't got round to it."





Tim Skelly

(VECTOR GAME PIONEER AT CINEMATRONICS)

"When I saw *Asteroids* at an AMOA show in Chicago, I thought, 'why didn't I think of that?' Its strength was that it allowed you to work out your own ways to win the game. Every player was free to break rocks and shoot saucers any way they pleased. It was an inspiration to me and to decades of game designers. When I was briefly working for Gremlin/Sega, the team there created a variation on it called *Space Meatball* or *F*** Your Buddy*, depending on the prototype. My point is, flexibility is fun, and *Asteroids* introduced wonderfully flexible gameplay."

"Asteroids is a man-against-machine game. However good you got, it was always one step ahead"

HOWARD DELMAN RAGES AGAINST THE MACHINE

"Originally, the small saucer used to come out and shoot instantly," explains Ed. "If you were right next to him he'd nail you. People said it wasn't fair, so I said okay, I'll give you a second before he takes his shot so you can see where he's at. Unfortunately that opened the big fat window to lurking."

Ah, the ancient art of lurking, where the proficient player leaves a solitary asteroid on screen and then hunts saucers for hours, sometimes days, accumulating mammoth scores. It reached its zenith in November 1982 when 15-year-old Scott Safran played a single game for an entire weekend setting the current world record of over 41 million (see **Retro Gamer** 28 for the full story) and the widespread use of the technique led many arcade owners to complain about these marathon games.

"What they didn't see was that some could play that long but a lot of other people would try," notes Ed. "So Joe might play for six hours on one quarter, but then all Joe's friends come in and try and be as good as Joe and put in a lot of money. That really contributed to both the game's popularity and its longevity. We actually made a new chip to prevent lurking, but a lot of operators found that with it their earnings went down and wanted it put back to the old way. *Asteroids* would have been successful anyway, but lurking became part of its lore…"

"Sure, there were those who could play forever, but the average player always felt that his failures were his own, that the game was fair, and he could do better next time," adds Lyle. "I think the 'secret' of *Asteroids'* phenomenal success was Ed's near-perfect tuning of the difficulty."

"It came out at a great time, too," says Howard. "Arcades were springing up everywhere. Offices were getting games, doctor's surgeries were getting them… there was an unprecedented demand and everyone in the business sold everything they had. The industry was hot back then. And *Asteroids* is a classic man-against-machine game. It was simple to learn, obvious what you had to do and you could improve quickly, but however good you got, the game was always one step ahead. I used to get into fights with marketing guys who wanted games with more colour, more things on screen, things to be more lifelike. I'd say it was all about gameplay, how fun something is."

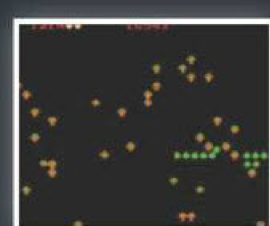
Ladies and gentlemen, after 32 years we are still floating in space…

DEVELOPER HIGHLIGHTS

BREAKOUT
SYSTEM: ARCADE
YEAR: 1978

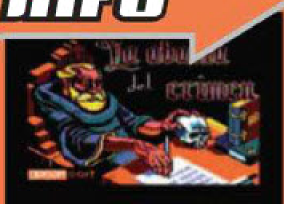
LUNAR LANDER
SYSTEM: ARCADE
YEAR: 1979

CENTIPEDE (PICTURED)
SYSTEM: ARCADE
YEAR: 1980



Import Only

INFO



- » **PUBLISHER:** OPERA SOFT
- » **DEVELOPER:** PACO MENÉNDEZ
- » **FEATURED HARDWARE:** AMSTRAD CPC
- » **ALSO ON:** SPECTRUM 128, PC, MSX
- » **GENRE:** ISOMETRIC ADVENTURE
- » **RELEASED:** 1988
- » **EXPECT TO PAY:** £25+

» CO-ORDINATES: 40°26N 3°42W

GAME ORIGIN



- » **COUNTRY:** SPAIN
- » **POPULATION:** 46,661,950
- » **CAPITAL:** MADRID
- » **NATIONAL LANGUAGE:** SPANISH
- » **CURRENCY:** EURO
- » **TIME ZONE:** CET +1

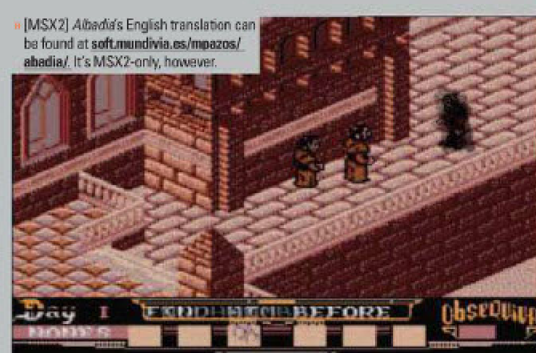
LA ABADIA DEL CRIMEN

» Taking a change of pace from the usual Japanese imports, Darran Jones instead turns to Spain and uncovers one of the greatest isometric adventures of all time

Believe it or not, one of the best isometric adventures to ever appear on an 8-bit system wasn't by Ultimate, Denton Designs, nor any other UK developer, for that matter. No, the game in question was by a young Spaniard who based his creation on a book that he never managed to obtain the rights for. The novel in question is Umberto Eco's *The Name Of The Rose*; the game, *La Abadia Del Crimen* (*The Abbey Of Crime*), is an 8-bit masterpiece by Paco Menéndez that is well worth playing through, even if you don't understand a word of Spanish.

Released by Opera Soft in 1988 and created for the CPC 6128, *La Abadia Del Crimen* is an astonishing piece of work that not only proves to be a genuinely engaging adventure but also features some truly mesmerising design, both in its brilliantly drawn sprites and the immense monastery that the adventure is set in.

Following the plot of the famous book, you take on the role of Fray William, who has been summoned to the out of the way abbey in order to solve the mystery of a missing monk. With only seven days to solve the case, the player is left with not only a massive amount of work on his hands – more so if you're not playing the recently translated MSX2 version – but only a finite amount of time to admire Juan Delcan's gorgeous graphics.



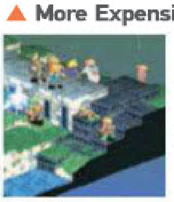
[MSX2] *Abadia*'s English translation can be found at **soft.mundivia.es/mpazos/abadia/**. It's MSX2-only, however.

Indeed, *La Abadia Del Crimen*'s visuals are quite frankly stunning on the CPC and easily manage to outdo many of the adventures created by Ultimate. Sprites are full of character and walk around with a convincing gait and the many objects you pick up are instantly recognisable, while the massive abbey easily captures the ancient buildings of old. Huge and imposing, the detail of the ancient citadel is astonishing. Floors are intricately tiled, stained glass windows are full of detail, and even brickwork looks like a work of art, so much care and love has Delcan lavished

PRICE WATCH

» Similar titles to splash cash on

▲ More Expensive Than



FINAL FANTASY TACTICS

GET IT FOR: **£20**

This superb isometric strategy role-playing game never came out in the UK, which is a shame as it's an excellent adventure with hours and hours of fantastic gameplay. If you have access to a US PSN account, it's even cheaper.

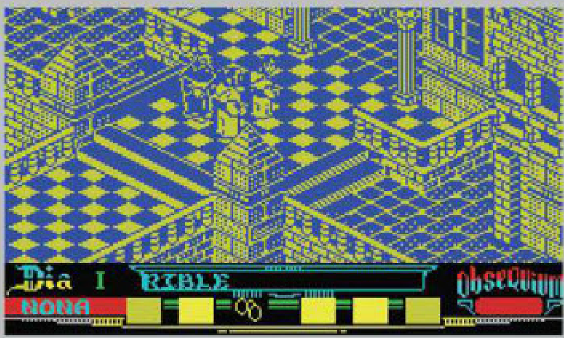
▼ Cheaper Than



KNIGHT LORE

GET IT FOR: **£40**

Only a few Ultimate games were released on the MSX in Japan, and as a result they're extremely hard to come by. *Sabre Wulf*'s sequel is easily the best available.



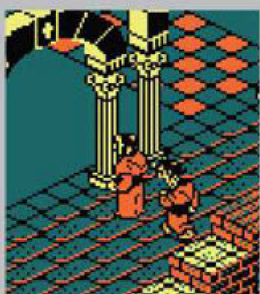
» [Spectrum] This 128k masterpiece is a must-have for Spectrum owners everywhere.



» [Amstrad] *Abadia* features astonishing visuals that put many similar games to shame.



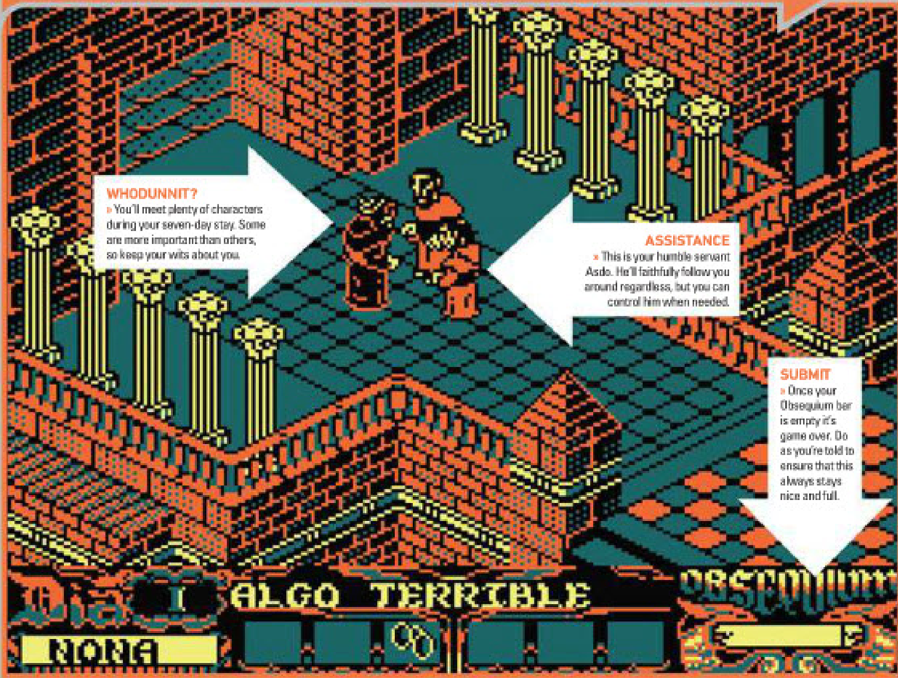
» [Amstrad] *Abadia*'s gameplay is reminiscent of Denton Designs' *The Great Escape*.



» [Amstrad] You have just seven days to solve the abbey's mysterious murders.

GO DEEPER

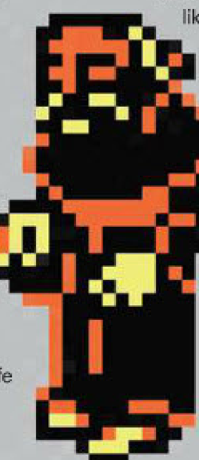
What to look for when playing La Abadia Del Crimen



> **"One of the best isometric adventures on an 8-bit system wasn't by Ultimate or Denton Designs but a young Spaniard"**
>
> GREAT GAMES CAN COME FROM UNEXPECTED SOURCES

upon the project. Ported to both the ZX Spectrum and MSX, the game loses a little in the conversion, but it remains a stunning piece of work that shows just what can be achieved by a small yet dedicated team.

For all its gob-smacking beauty, the real pleasure of *La Abadia Del Crimen* can be found within its perfectly crafted and tightly honed gameplay. If *Abadia*'s visuals perfectly replicated the period that you find yourself in, then its gameplay takes things one stage further by allowing you to feel part of a living, breathing world. At the heart of *La Abadia Del Crimen* is a simple mystery, but you soon discover plenty of twists that keep the story moving nicely forward, and as bodies begin to crop up, you'll have to solve a variety of item-based puzzles in order to stay one step ahead of the abbey's killer.

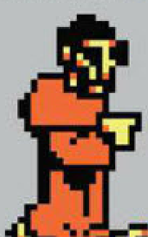


This is easier said than done, though, for while you have your faithful servant Asdo following your every move and a week to solve the mystery, you also have to seek out important clues while fitting in with everyday life at the monastery.

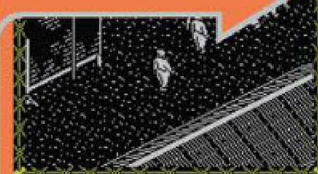
As with *The Great Escape*, which came out the year before Menéndez's game, other characters will go about their daily business and Fray William must ensure that he's in certain locations at the relevant time. If the player doesn't manage to do this then William's Obsequium level will drop. Allow the Obsequium level to drop to zero and you'll be unceremoniously booted from the abbey and unable to complete your quest. Even seemingly innocuous things like being caught walking around the abbey at night will have you immediately ejected, so the gameplay becomes a clever balancing act as you juggle your sleuthing with the many menial tasks that you must perform.

Originally created for the Amstrad CPC 6128, Menéndez's game was later converted to the Spectrum 128, PC, MSX and CPC 464, while remakes exist for the PC, Game Boy Advance and MSX2, the latter of which has an English translation.

Sadly, despite the brilliance of *La Abadia Del Crimen*, it would turn out to be Paco Menéndez's last ever computer game. He left gaming to complete his degree in telecom engineering, only to tragically take his own life in 1999 after jumping from his Sevillian apartment. He was 34 years old at the time.



CAN'T IMPORT? YOU COULD TRY



THE GREAT ESCAPE

» The setting is, admittedly, completely different, being unsurprisingly set in a WWII prison camp, but in terms of gameplay, this excellent isometric adventure from Denton Designs is the closest you'll get to Paco Menéndez's beautifully crafted game. It's a fantastic title in its own right as well.



FROM THE ARCHIVES

RETRO GAMER DIGS UP THE FILES OF THE CLASSIC COMPANIES OF OLD

Magnetic Scrolls

In the heyday of text-based adventures, Magnetic Scrolls was one of the major players. Martyn Casserly unrolls the parchment and delves into its world to discover the story behind the storymakers

"You wake up on a sunny August morning with birds singing, and the air fresh and clear. However, your joints are stiff and you have not woken in your bedroom as you would have expected…"

Now this might sound like the morning after a pretty heavy night on the tiles, but instead it was the way that Magnetic Scrolls introduced itself to the text-based adventure world in 1985 with the release of *The Pawn*. The genre was enjoying its golden age at the time with two big hitters dominating the field: Infocom, the US giant responsible for legendary titles such as *The Hitchhiker's Guide To The Galaxy* and the wonderfully named *Leather Goddesses Of Phobos*; and Britain's Level 9, who had a formidable catalogue of its own, with games such as *Adventure Quest*, *Dungeon Adventure* and *Red Moon*.

"There was certainly a pioneering spirit back in the Scrolls days," co-founder Hugh Steers remembers. "I knew Ken Gordon and Anita Sinclair wanted to start a software company, so we had this idea to write text-based adventures, which suited the limited capabilities of home micros at the time."

For the games to work they needed a writer, so they turned to another of their colleagues, Rob Steggles.

"We were just a bunch of school friends having fun with these newfangled home computers," says Rob. "It was all very new and we learned as we went along. Ken and Hugh were the programming geniuses, and once they hooked up with Anita I was invited to help write a scenario for what was originally intended as a game for the Sinclair QL."

Sinclair's new machine was having difficulty enticing developers to the platform, which provided Scrolls with the opportunity to align itself with a high-profile brand for its first release. The company agreed to develop its debut title for the system, and to subsequently release it under the Sinclair Research label with 'Software by Magnetic Scrolls' adorning the bottom of the box. The confusing nature of the QL's market placement (was it a business machine or a games machine?) plus Sinclair's unsuccessful promotion and unusual packaging (the game came with two Sinclair microdrives in the box) meant that *Pawn-QL* sold poorly, but the quality of the game itself had already caught the eye.

"*The Pawn* was loosely a comic parody of the archetypal adventure fantasy plot," Hugh explains. "There was a princess to rescue, a magician and an 'adventurer', who was supposed to be the one playing the game while the player's character was only there by accident. We experimented with what could and couldn't be done, and tried to expand on the basic 'verb noun' grammar. I managed to get 'put the pot plant in the plant pot' to be understood, so we wrote it into the game!"

Chapel court

The Scrolls office was in the winding back streets of South London, sandwiched between the locations for Dickens' *Little Dorrit* and Chaucer's *Canterbury Tales*. Though modest, it proved a creative

INSTANT EXPERT

Magnetic Scrolls was formed in 1983 by Ken Gordon, Anita Sinclair and Hugh Steers.

After a brief stay in Eltham, the company settled down in the Borough, near London Bridge.

The company's first release was on the Sinclair QL and suitably titled *QL-Pawn*. The game was distributed under the Sinclair Research banner and came packaged with a pair of micro-drives.

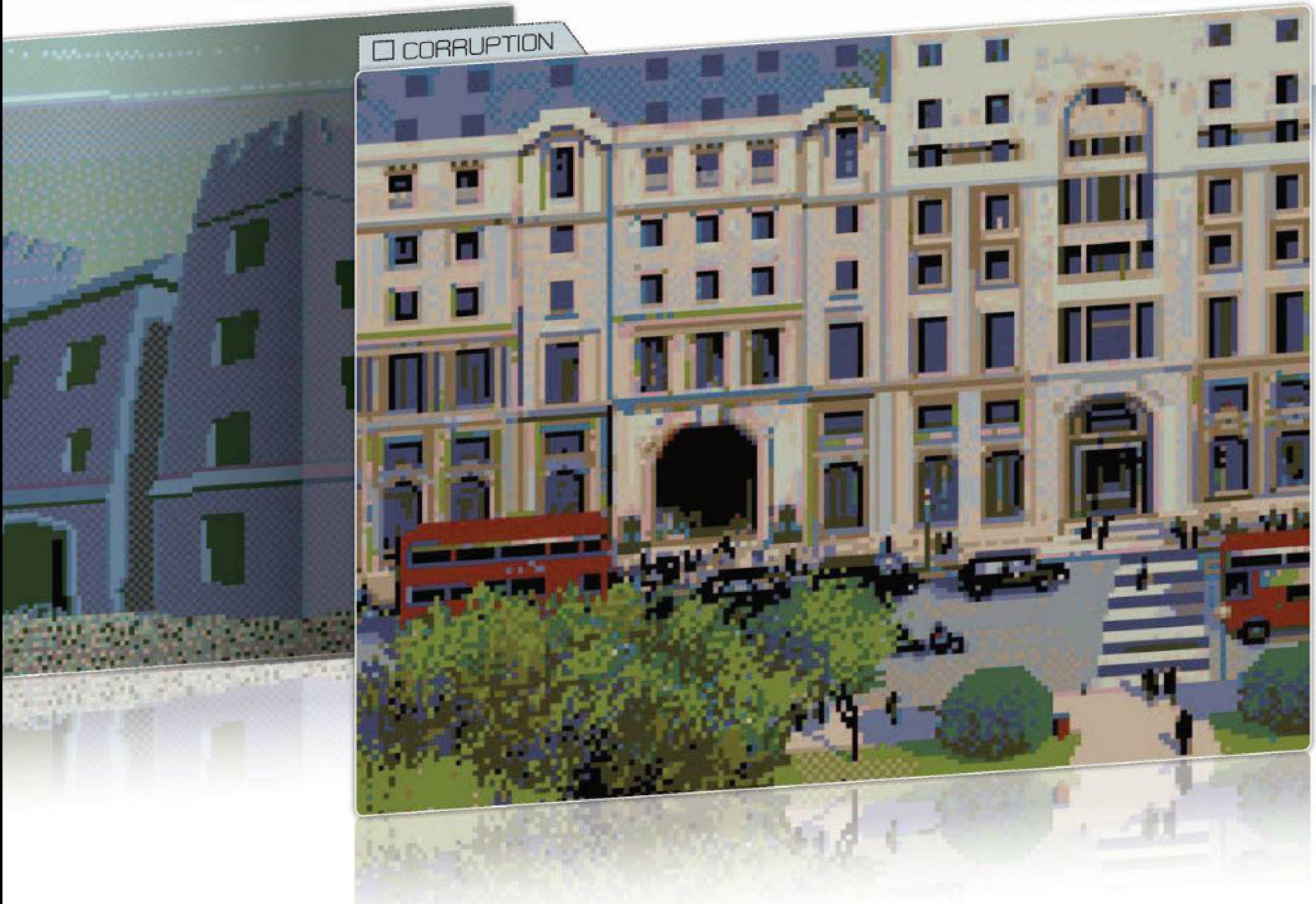
Anita Sinclair's bulldog Murdoch became a regular fixture in the Magnetic Scrolls office and was eventually adopted as the company mascot.

The games often contained 'goodies', which ranged from posters and fake newspapers to a fish identification chart.

Michael Bywater, the writer of Scrolls' third game, *Jinxter*, was good friends with Douglas Adams and was reportedly the inspiration for the *Dirk Gently* novels.

The inspiration for The Guardians in *Jinxter* was a cartoon Bywater had seen in *Punch* magazine, depicting middle-aged cherubs with moustaches and glasses.

Originally, the games were published by British Telecomsoft imprint Rainbird, but after Microprose bought the company in 1989, Scrolls decided to look for a new distributor, eventually signing with Virgin Games.



CORRUPTION

" Scrolls games tried, to an extent, to let you do what you wanted, silly or not "

HUGH STEERS ON THE FREEDOM THE TEAM SOUGHT TO ACHIEVE

environment for the emerging company, as Hugh explains.

"The atmosphere and much of the development was lighthearted," he says. "There were many jokes and pranks going on, but we did put a lot of creative energy into the works. Actually, the development team features in *The Pawn*, right at the end. You reach the room with no windows and Ken hands you a list of bugs to fix while the team runs off to the pub."

As a writer, Rob found the literary history of his surroundings inspirational.

"The place in Borough High Street was full of Dickensian and Chaucerian ghosts, so it was quite evocative – I kinda liked that. It was a typical development office, though: endless streams of coffee, borrowed and discarded computer bits all over the place and a humming DEC Microvax lurking in the corner."

Atari had recently launched the ST, and the Scrolls team decided to release a revamped version of *The Pawn* on the new machine. They approached publisher Rainbird with the game and it was met with a positive response. Rainbird's suggestion that graphics be added to make use of the powerful new systems would also turn out to be significant. Artist Geoff Quilley was asked to create static illustrations for locations within the game, and the results became something of a game-changer.

"*The Pawn* was fun to work on, as it was all very new," recounts Geoff. "The ST was still very clunky, of course, but the wider range of colours and smaller pixel size meant that you could achieve certain interesting effects and produce quite sophisticated designs. At the same time the restrictions posed enormous challenges. There were certain things that simply couldn't be done, especially anything too detailed or complex. My approach was to pick up on some aspect of the text that seemed to lend itself to visual treatment and then exploit that, so that the pictures would provide something that wasn't in the text but added to it and created another dimension to the game."

The Pawn became a huge critical and commercial success, winning awards and an army of fans. Previously, adventure games had featured sparse illustrations of dubious artistic quality, mainly because of the restrictions of the 8-bit machines, but the high-class nature of the art in *The Pawn* immediately gave Magnetic Scrolls a brand that was associated with quality.

Of course it wasn't just the aesthetics that caught the eye – the game also featured an advanced parser that could handle more complex commands. But probably the standout feature was the intelligence of the writing. Not only were the puzzles tricky and thought-provoking, the game also displayed a knowing sense of humour that poked fun at the genre itself. This became obvious within a few moves of the starting location, where you discover a ▶

BY THE NUMBERS

1 The number of games Magnetic Scrolls released on the Sinclair QL. (*QL-Pawn*)

2 The number of Scrolls games set in the fantasy land of Kerovnia (*The Pawn* and *Guild Of Thieves*).

2 Greatest hits compilations that were released by Virgin Games. (*Magnetic Scrolls Collections 1* and *2*)

5 The number of magical charms needed in *Jinxter* to finish the game.

7 The number of 3.5-inch disks that the PC release of *The Legacy* was spread across.

8 The number of original titles that *Magnetic Scrolls* released.

13 The number of platforms that *Magnetic Scrolls* games were released on. (Amiga, Amstrad CPC & PCW, Apple 2, Archimedes, Atari ST & XL, C64, PC, Mac, QL, Spectrum and Spectrum +3)

350 The amount of points needed to completely finish *The Pawn*.



» [ST] A summer cottage in *Jinxter*, but the owner has been kidnapped and you need to find him.

TIMELINE

1983 ANITA SINCLAIR, KEN GORDON AND HUGH STEERS FORM MAGNETIC SCROLLS

1985 ITS FIRST TITLE, *THE PAWN*, IS RELEASED ON THE SINCLAIR QL. PORTS TO OTHER SYSTEMS QUICKLY FOLLOW.

"The inspiration was really to do an adventure game that didn't take itself so seriously"

ROB STEGGLES EXPLAINS THE SCROLLS MENTALITY

THAT LITTLE BIT EXTRA

As text-based adventure games involved little in the way of action but instead used plenty of story and puzzles to solve, it became a common practice to put some goodies in the boxes. Magnetic Scrolls was no slouch in this department and included, among others, a novella for *The Pawn*, a copy of What Burglar? for the *Guild Of Thieves*. *Jinxter* came complete with a beer mat advertising Old Moose Bolter. But perhaps one of the most interesting and innovative of all was the cassette that players found in the *Corruption* box. The audio contained actors playing scenes relevant to the plot of the game, which the player would be prompted to listen to once they'd reached a certain point.

"Initially it was just a part of the game that I'd put in – a clue to the instigator of the conspiracy," Rob Steggles explains. "But at that stage it was just described as a tape that had taken various bits of 'legitimate' conversation and edited them into an incriminating conversation – we had not scripted it. Later, it was decided to make it part of the packaging, and Michael Bywater wrote the script and had it made up."

red line on the floor that is described as 'the southern edge of the adventure', a subtle jibe at the invisible walls that many of the current crop of adventure games contained.

"The inspiration was to do an adventure game that didn't take itself so seriously," reveals Rob. "We had a normal-looking adventure setting and then let the character have as much freedom as our system, memory limitations and our imaginations would allow. We all got frustrated at adventures that blocked you and made you solve puzzles sequentially. We all got annoyed at the 'you find yourself…' descriptions, and wanted to overturn some stereotypes. The ideas came from everyone in the team and I tried to herd everything into some kind of story; it was very collaborative.'

Technically, *The Pawn* was a complex achievement that set out to address known issues in the adventure game genre.

"We thought it correct to ensure that every item actually mentioned in the text of the game actually existed," Hugh explains. "This meant that you could reference such objects in your input. If the text mentioned a candlestick, for example, it should exist and you should be able to examine it or even take it. By comparison, Infocom didn't always abide by this rule in its releases. Often, the text was seen more as a qualitative description of the scene rather than a quantitative one. Although I had huge respect for their games, playing them I often felt I wanted to do something that the game wouldn't let me. Usually this was because it was something daft and irrelevant to the plot, but Scrolls games tried, to an extent, to let you do what you wanted, silly or not."

The Pawn came packaged with a poster of the cover art and a 44-page novella introducing the fantasy world of Kerovnia, where the game was set. These 'goodies' followed on from the example set by Infocom and would become a feature of all future Magnetic Scrolls releases. After the initial success, fans were hungry for more, so the team set to work on their next adventure, *The Guild Of Thieves*. Rob Steggles was again in the writer's chair.

"For the 'difficult second album', we had to do something a little more traditional, more coherent, albeit with a similar voice and sense of humour," says Rob. "If there was pressure, Ken and Anita were very good at hiding it from the rest of us. We just got on with the writing and hoped we had hit on another winner. '

Not content to simply revisit old patterns, Hugh and the development team looked to add more features to the structure of the game to give the player a better experience.

"For each title, we tried to explore new plot methods, and *Guild* was what we termed a 'collect the treasures' game. Although this sounds simplistic, there are several important upsides. Firstly, if you have ten things to collect and you've got seven, then you're around 70 per cent through the game. We learned that people liked to have some idea of progress and a score when playing games. Secondly, the puzzles surrounding these treasures can be largely independent so that it's possible for players to tackle all the remaining targets simultaneously and in any order, trying out ideas as they occur. People liked this too, as they were less likely to get stuck."

Guild Of Thieves was an instant hit and went on to collect, among others, the CGW Game of the Year award in 1987, confirming Magnetic Scrolls as a real force in the adventure game market.

"*The Pawn* gave us impact," Rob says. "But by most other measures, *Guild* was probably the most successful game that Magnetic Scrolls did."

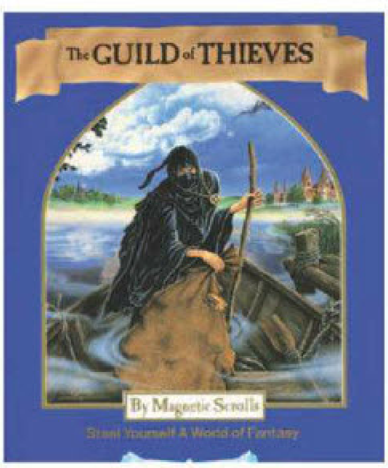
A new world

Leaving the shores of Kerovnia behind, Scrolls' next game would feature an even stranger world fashioned by a new writer. Michael Bywater was already a respected journalist working on publications such as *The Observer*, *MacUser* and *Punch* when he was asked to rework a story written by Anita Sinclair's sister, Georgina. The result was *Jinxter*, in which the player is saved from certain death by a Guardian, who then asks them to recover five magical charms spread throughout the game. The Guardians were not your regular celestial beings, though; instead they were seedy-looking men in Herringbone overcoats who all shared one name: Len. The reason for this was simple, as Michael reveals.

"They amused me, and they amused Anita, and they amused the chaps. No more than that," he says. "Except I suppose we were playing with the limitations of NPCs. One of the limitations is that differentiating them is very difficult. You can do the *Zork* or the *Planetfall* trick and have just the one (in *Zork* it's the Thief who pops up without any reference to what the player is doing



» *Guild Of Thieves* proved that *The Pawn* was no fluke and it went on to win several awards.



1987 – *GUILD OF THIEVES* IS RELEASED, GOING ON TO WIN SEVERAL AWARDS. MICHAEL BYWATER ALSO JOINS THE TEAM TO WRITE SOME OF THE 'GOODIES' THAT ACCOMPANY THE GAME. HE THEN PROCEEDS TO WRITE THE SCRIPT FOR THE NEXT RELEASE, *JINXTER*.

1988 – THE LAST TWO COMMERCIAL TITLES WITH TELECOMSOFT/RAINBIRD ARE RELEASED: *FISH!* AND *CORRUPTION*. MICROPROSE BUYS THE DISTRIBUTOR SHORTLY AFTER.

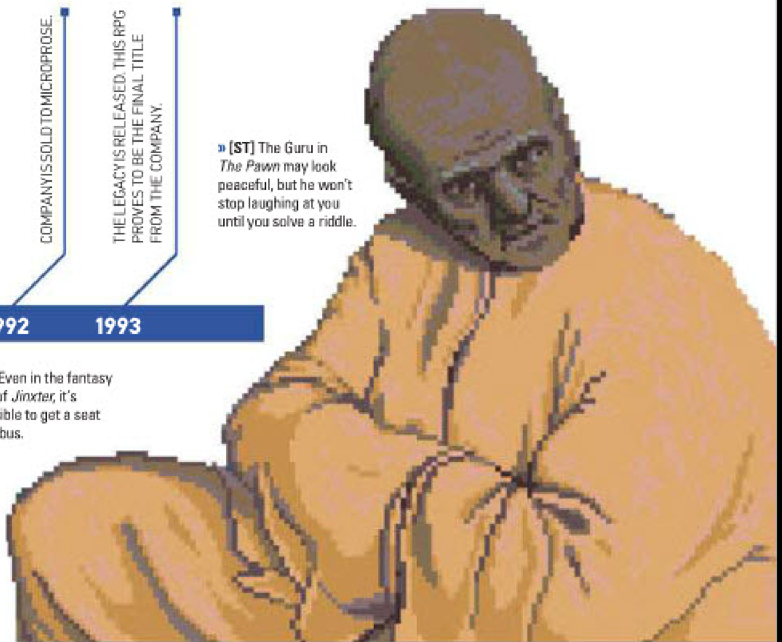
1989 – *MYTH*, A FREEBIE TO PROMOTE AN ADVENTURE GAME CLUB CALLED 'OFFICIAL SECRETS', IS WRITTEN AND GIVEN EXCLUSIVELY TO MEMBERS THAT JOIN THE SHORT-LIVED CLUB

1990 – MAGNETIC SCROLLS RELEASES ITS ONE AND ONLY ORIGINAL TITLE WITH VIRGIN GAMES. *WONDERLAND* FEATURES AN INNOVATIVE AND TECHNICALLY ADVANCED NEW GUI CALLED MAGNETIC WINDOWS, BUT THE ONSET OF POINT-AND-CLICK ADVENTURES PLUS THE RECESSION ARE ALREADY BEGINNING TO TAKE THEIR TOLL.

1991 – VIRGIN GAMES RELEASES THE FIRST OF TWO GREATEST HITS COMPILATIONS.

1992 – COMPANY IS SOLD TO MICROPROSE.

1993 – THE LEGACY IS RELEASED. THIS RPG PROVES TO BE THE FINAL TITLE FROM THE COMPANY.



» **[ST]** The Guru in *The Pawn* may look peaceful, but he won't stop laughing at you until you solve a riddle.



» **[ST]** Even in the fantasy world of *Jinxter*, it's impossible to get a seat on the bus.

at the time; in *Planetfall* it's Floyd the robot who follows you around), but we thought we'd turn that limitation into a sort of running gag."

The challenge of writing for a game rather than print publications presented Michael with a brand new set of problems.

"The differences between adventures and ordinary narrative prose are so many that it's probably easier to say what the similarities are," he explains. "Both involve words. Both involve using words to build some sort of imaginary world. End of similarities. I mean, think of the things you haven't got in an adventure game that you have got in a straight – or indeed monstrously bent – story. The main thing you haven't got is narrative control. You can't time things. You can't spin out tension. You can't control where the reader goes or what he or she sees. You don't have the precise control you would in a novel."

Although he may have wrestled with the limitations of the game structure, this didn't stop Michael from penning a surreal and wonderfully amusing script. *Jinxter* went on to be another commercial success for the Magnetic Scrolls team, and is still often cited by many fans as their favourite Scrolls game.

The Eighties boom-and-bust economy focused attention on the fluctuating financial markets, and the next game's setting saw a move away from mythical worlds and spiritual metaphors into a more familiar realm. Rob Steggles returned, fresh with new influences.

"I'd played Infocom's murder mysteries and wanted to try something different from the usual fantasy/sci-fi settings," he says. "Eventually, we settled on a thriller set in the City of London. When it was published, insider trading was all over the papers, so the timing was pretty good.'

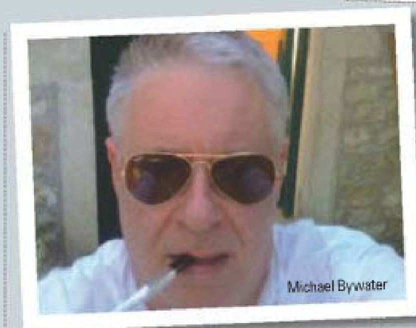
Corruption marked another innovative approach to adventures, as the classic puzzle-centred model was pushed back in favour of a character-based game.

"There were puzzles in the game," clarifies Rob. "But the big puzzle was figuring out a conspiracy and then working out how you could manipulate it so that you came out alive, ie a winner. Pacing it was tricky as the characters had to appear sufficiently real to suspend disbelief. The ratio of character responses as opposed to item and room descriptions in the writing was definitely higher than in any previous games. We also had characters interacting and moving around. In fact, we restricted the modes of talking (the number of ways the player could interact with characters) and made the range of responses for each character much wider. For the endgame with the police interview and courtroom outcome there was some incredibly complicated network/flow diagrams of which response took you where – Hugh had a devil of a job to code that one."

To give them the kind of control they needed for structure – not to mention porting the games to the multiple platforms they now supported – the team had always relied on building their own ▶

WHERE ARE THEY NOW?

Hugh Steers After leaving the Scrolls team, Hugh began working as a freelance software developer and eventually teamed up with Doug Rabson again recently at Inmarsat, the world's leading provider of global mobile satellite communications.



Michael Bywater

Geoff Quilley Dr Geoff Quilley left the commercial gaming industry behind and instead entered the lauded halls of academia. Over the years he has been the curator of fine art at the National Maritime Museum, lecturer in the History of Art at the University of Leicester, and is currently the senior lecturer in Art History at Sussex University. He has also published several books and research papers on Art History.

Doug Rabson After leaving Magnetic Scrolls, Doug set up the company RenderMorphics with another ex-Scrolls programmer, Servan Keondjian. Together they developed the Reality Lab 3D API, which would later become Direct3D when the company was bought by Microsoft. Direct3D is now an integral part of the graphics API on the Xbox and Xbox 360 games consoles. He currently works at Google with another ex-alumni of the Scrolls team, Steve Lacey.

Rob Steggles Rob now plies his trade in Paris, where he is the European marketing director for NTT Communications, one of the largest telecommunications companies in the world.

Michael Bywater Michael's journalistic career has been wide and varied, seeing him write for national newspapers such as *The Independent*, *The Times*, *The Observer*, and *The Daily Telegraph*. He's also written and held editorial roles at the magazines *Punch*, *Cosmopolitan* and *Women's Journal*. Michael was close friends with the now sadly deceased Douglas Adams, with whom he collaborated on the game *Starship Titanic*. Somehow he has also found time to pen several books, including *Lost Worlds* and *Big Babies* – both of which are well worth a read.



Rob Steggles

development programs rather than relying on off-the-shelf products.

"The basis of the engine for all the games was developed for *The Pawn*," Hugh states. "Obviously, this improved substantially over the course of the other titles, but it nevertheless retained its original architecture. The engine would handle the plain vanilla operation of the world (doors, keys, containers, water, fire, moving things etc). Each of the non-character objects in the games was described by 14 bytes of 'noun data'. This data modelled all of its physical properties (size, weight, texture, material, temperature etc). From this, the engine could manipulate objects in a general way; for example, it would know if a thing could be carried or fit in a bag.

"For a new game, you designed the location layout, connectivity and wrote the room descriptions. Then you constructed all the objects, which consisted of their data plus a textual description. The data was compiled by a program called 'fred23'. This process was tedious, but effective.

FRIENDLY FOES

With Infocom, Level 9, and Scrolls being the dominant force in text-based adventures, you'd be forgiven for thinking that they'd have been cautious, cagey, and possibly even hostile to each other. Hugh Steers and Rob Steggles set the record straight.

"There was a friendly rivalry between Scrolls and Infocom," says Hugh. "I think the general feeling back then was that people bought the games they wanted and that the other companies were not competing against you for market, but adding to the genre."

"We met all those folks at various exhibitions, awards ceremonies and such like," adds Rob. "We always got on well with them, especially the Infocom guys. I vaguely remember someone – Keith Campbell from *C&VG* magazine, I think – organising an 'adventure writers' meal one evening in London during the PCW show, which was great fun. I think we must have all played each other's games – we were fans first and foremost, so if there were any issues, I wasn't aware of them."

The biggest difficulty with each platform, aside from whipping it for as much memory as possible, was the graphics. Scrolls regarded the graphical pictures in much the same way as you might encounter illustrations in a book. They turn up at some point in the plot, but they don't update or change. People used to complain that the pictures did not reflect the changing game circumstances, but this wasn't feasible. Instead we spent a great deal of effort trying to make the pictures as high fidelity as possible, for the time. Today, the pictures look poor, but in their day some were truly amazing. Each one was drawn by hand."

Scrolls' next few releases, including the weirdly interesting *Fish!* and a mini-game freebie called *Myth* (used to promote a new adventure game club run by Tony Rainbird) kept the public happy, but the team were much more excited about a game they had in development named *Wonderland*, which used a brand new interface called Magnetic Windows. Hugh Steers takes us through the looking glass.

"Home micros were becoming more graphic-capable. When 8-bit micros largely gave way to 16-bit ones, we started to consider how we could use the increased memory, CPU and display. Magnetic Windows was an attempt to move from a text-based system to a windowing system."

Doug Rabson had been on the team since *Jinxter* and played a prime role in writing the Magnetic Windows code.

"The main challenge designing the window system was efficiency," he explains. "I think the slowest machine we were targeting was a 4.77MHz IBM PC with 640k of memory and CGA graphics, and it was a challenge to work in that constraint. The system had to be portable as well – we produced Atari ST, Amiga and Archimedes versions that were all quite different, and on the PC platform we had to cope with at least four different graphics standards (CGA, EGC, VGA, Hercules). We needed a lightweight, portable GUI and there was really nothing available so we wrote our own."

» [ST] There were always plenty of clues hidden in the rooms, not all of which appeared in the illustrations.

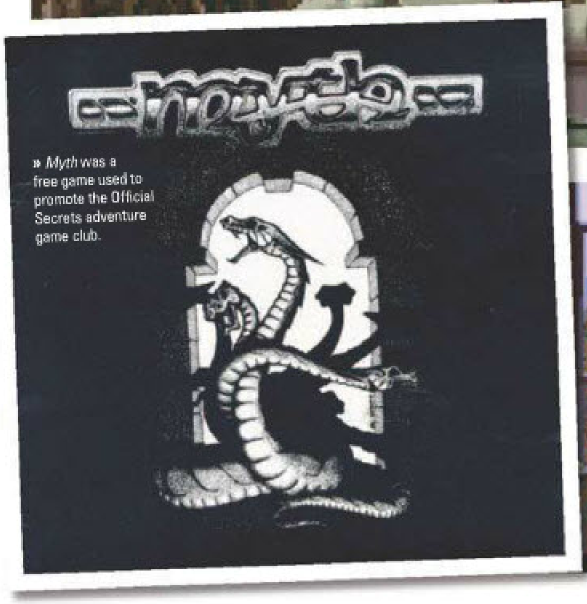


"The place was full of Dickensian and Chaucerian ghosts, so it was quite evocative – I kinda liked that"

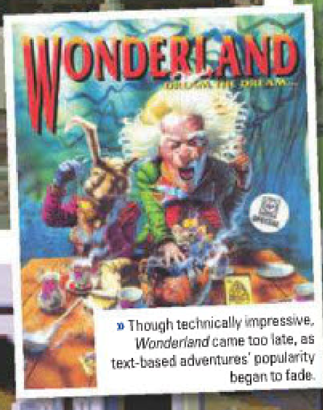
ROB STEGGLES ON THE OFFICES AT 1 CHAPEL COURT

» [ST] Geoff Quilley's impressive artwork was a main feature in Scrolls' games.

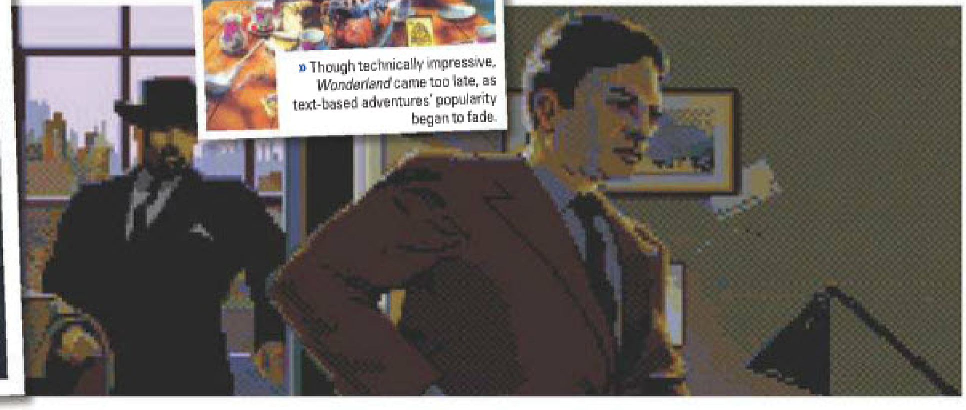




» *Myth* was a free game used to promote the Official Secrets adventure game club.



» Though technically impressive, *Wonderland* came too late, as text-based adventures' popularity began to fade.



SIX OF THE BEST



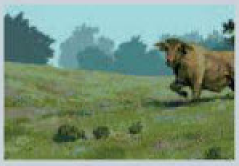
The Pawn (1985)

Scrolls introduced itself to the world with this tale of a hero who ends up trapped in the world of Kerovnia. More powerful systems featured the gorgeous artwork of Geoff Quilley, while others had to make do with the excellent story and puzzles.



The Guild Of Thieves (1987)

The difficult second album saw the return of Kerovnia, but in place of the press-ganged protagonist there was a young hopeful trying to join the titular guild. It used an improved parser and fiendish puzzles that increased in difficulty.



Jinxter (1987)

Michael Bywater's surreal humour makes an appearance in this wonderfully weird game. Luck has been stolen by a witch, and it's the job of the player to get it back. The game featured one of Scrolls' popular characters: The Guardians.



Corruption (1988)

With the end of the Eighties being dominated by the impending recession Steggles and Steers moved the setting to the city. The gameplay centred on conversations and even included a tape with pre-recorded messages.



Fish! (1988)

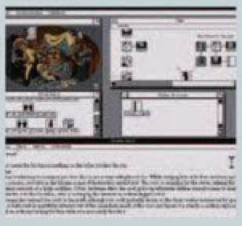
A return to the surreal with a central character that's a dimension travelling-goldfish who has to foil the plans of a group of terrorists know as The Seven Deadly Fins. A team of six artists worked on the graphics, including Geoff Quilley.



Myth (1989)

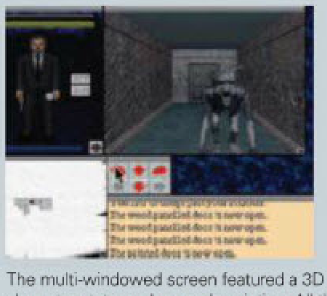
Not strictly a commercial release, *Myth* was offered as a gift to those who joined the Official Secrets adventure gaming club. As you might expect from a freebie, it was short and lacked many of the innovations found in Scrolls' other games.

TWO TO AVOID



Wonderland (1990)

This hugely ambitious version of the classic Alice story saw the introduction of a new Magnetic Windows graphical user interface. The GUI allowed the player access to things such as inventory and maps in separate windows, revolutionary at the time. The age of adventure games was ending, though, and *Wonderland* failed to be a big hit.



The Legacy (1993)

The first and only original title to be released under the Magnetic Scrolls name by Microprose after it bought the company. In a departure from its normal style, and in response to the more graphics-based games of the time, *The Legacy* was a horror-RPG that made extensive use of the Magnetic Windows GUI. The multi-windowed screen featured a 3D first-person perspective, map, character stats, and room description. All this high-tech wizardry had a devastating effect on loading times, which meant players on less powerful PCs found the gameplay too slow and frustrating.



» The games often came with interesting props to enhance the players' experiences.

▶ End of an era

As the end of the Eighties arrived, there were already doubts as to whether the text-based adventure genre would survive the new decade. Microprose had recently purchased Telecomsoft, parent company of Rainbird, and Magnetic Scrolls had opted out of the deal, leaving them without distribution. In 1990 a new deal was agreed with Virgin Games and the long awaited *Wonderland* was released. But for all its innovation and hard work, the game failed to make the impact required.

"I think in the *Wonderland* project, we took on a bit too much in one go," Doug reflects. "The game itself was large and complex, and the GUI took a lot of effort to develop. In the end, the project just took too long – by the time it was done text adventures were on the way out and the recession was starting."

If the Eighties had been the golden age of text adventures it seemed the Nineties would be their darkest hour. The once-mighty Infocom had closed in 1989; Level 9 held out until 1991, but financially the genre was no longer viable and soon the same fate would befall the Magnetic Scrolls team. In 1992 the company was sold to Microprose, and although Ken Gordon would release one final title in 1993 called *The Legacy*, the Magnetic Scrolls that had shone so brightly for those brief years was no more.

"It's important to note that Magnetic Scrolls did not go bankrupt," states Doug. "It was wound up in an orderly fashion and all creditors were paid. I think Ken Gordon still owns the company. I left a bit before this winding up but kept in touch with some of the staff, so I heard about it from them when the doors finally closed at Chapel Court. I think that when graphical adventures started to appear, text adventures were definitely on the way out. After all, we expected players to actually read and think."

The company maybe could have converted to the new playing field but, as Hugh explains, that was never really a serious consideration.

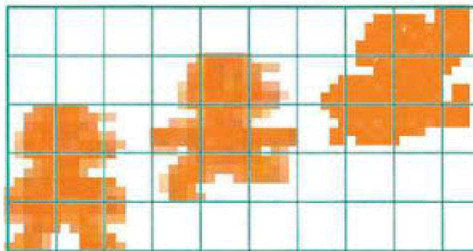
"It was clear that the genre was moving towards the point-and-click style; it was one of the reasons why we moved to a graphical environment and added animation. It would have been feasible to adapt to that kind of game in the new system, but the more pertinent question was if that was what we wanted to do. Furthermore, it would have required a scaling up of development teams, budgets and organisation. All of a sudden, something small, creative and interesting would turn into the mundane world of schedules and meetings. I don't think anyone really wanted that."

26 years on from Rob Steggles' words that opened this story, the name Magnetic Scrolls is still held in high regard; a testament to the quality of work and freedom of spirit that marked them out as special. It's only fitting then that he should have the last words.

"Looking at it now from a distance of more than half my lifetime away, I guess if I did it again I'd probably agonise much more over every sentence and full stop and comma; all of which would serve no purpose other than to strangle the DIY/have-a-go attitude that we all had back then. No focus groups, no strategy sessions or project plans – just start, keep writing and laughing until it's done. Add a bit, cut a bit out to make it fit and then ship it. The good old days, eh?"

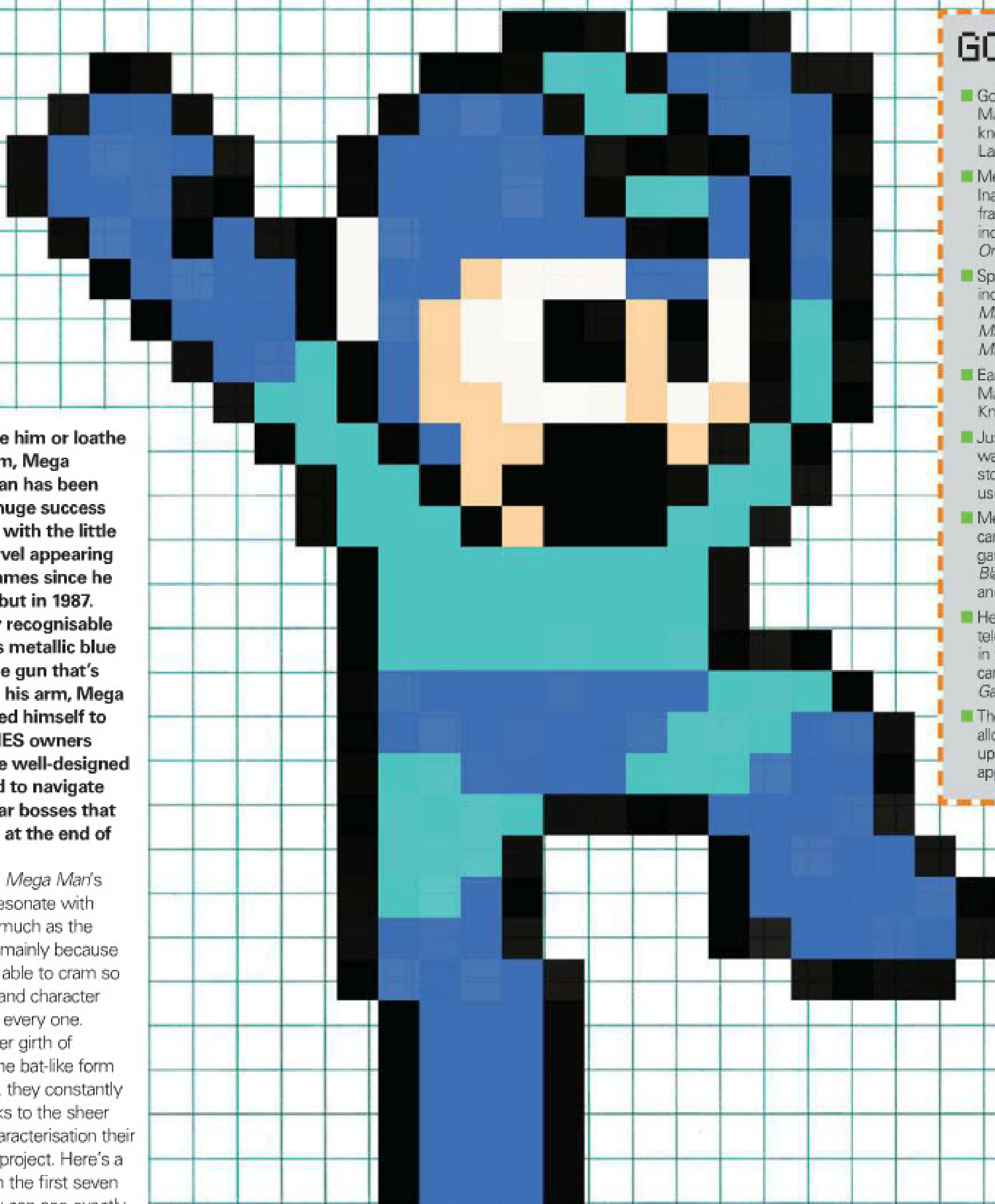
Project

Mega Man



PIXEL

SPRITES ARE ONE OF THE GREATEST INVENTIONS OF THE 20TH CENTURY, SO JOIN US AS WE LOOK AT THE MANY HEROES AND VILLAINS THAT MAKE GAMES SO MEMORABLE. THE MONTH, THE MEGA MAN SERIES



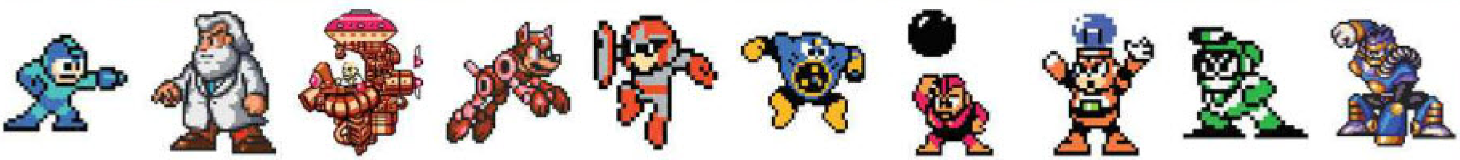
Love him or loathe him, Mega Man has been a huge success for Capcom, with the little metallic marvel appearing in over 20 games since he made his debut in 1987. Immediately recognisable thanks to his metallic blue suit and huge gun that's grafted onto his arm, Mega Man endeared himself to a legion of NES owners thanks to the well-designed levels he had to navigate and the titular bosses that awaited him at the end of each stage.

Indeed, it's *Mega Man*'s bosses that resonate with the player as much as the hero himself, mainly because Capcom was able to cram so much charm and character into each and every one. From the sheer girth of Gutsman to the bat-like form of Shademan, they constantly impress thanks to the sheer amount of characterisation their limited pixels project. Here's a selection from the first seven games so you can see exactly what we mean. Good hunting.

GO DEEPER

- Good luck finding a Mega Man game in Japan. He's known as Rockman in the Land of the Rising Sun.
- Mega Man's creator is Keiji Inafune. Other Capcom franchises he's worked on include *Dead Rising* and the *Onimusha* games.
- Spin-offs of the core franchise include *Mega Man X*, *Mega Man Battle Network*, *Mega Man Star Force* and *Mega Man Legends*.
- Earlier names for Mega Man included Rainbow Man, Knuckle Kid and Might Kid
- Just like Alex Kidd, Mega Man was going to have a paper, stone, scissors mechanic for use against certain enemies.
- Mega Man also likes to cameo in other Capcom games, including *Onimusha Blade Warriors*, *Cannon Spike* and *Marvel Vs Capcom*.
- He's also no stranger to television and has appeared in the popular Eighties cartoon, *Captain N: The Games Master*.
- The Mega Buster (which allows Mega Man to charge up shots) made its first appearance in *Mega Man 4*.

PERFECT



Mega Man First Appearance: Mega Man

Dr Light First Appearance: Mega Man

Dr Wily First Appearance: Mega Man

Rush First Appearance: Mega Man 3

Protoman First Appearance: Mega Man 3

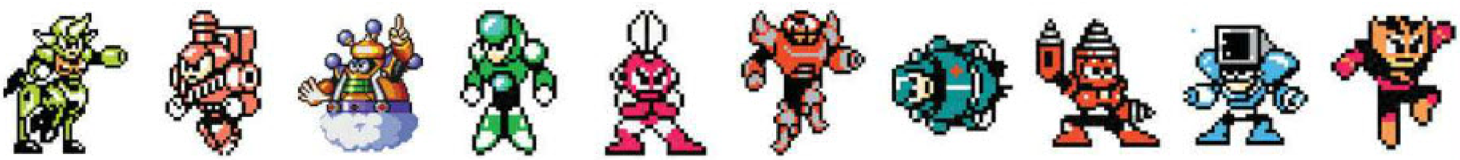
Airman First Appearance: Mega Man 2

Bombman First Appearance: Mega Man

Brightman First Appearance: Mega Man 4

Bubbleman First Appearance: Mega Man 2

Burstman First Appearance: Mega Man 7



Centaurman First Appearance: Mega Man 6

Chargeman First Appearance: Mega Man 5

Cloudman First Appearance: Mega Man 7

Crystalman First Appearance: Mega Man 5

Cutman First Appearance: Mega Man

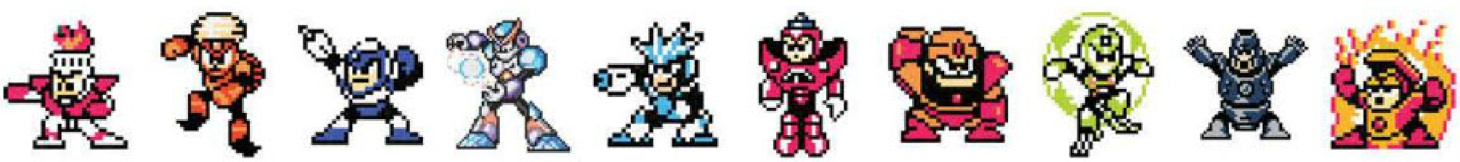
Darkman First Appearance: Mega Man 5

Diveman First Appearance: Mega Man 4

Drillman First Appearance: Mega Man 4

Dustman First Appearance: Mega Man 4

Elecman First Appearance: Mega Man



Fireman First Appearance: Mega Man

Flameman First Appearance: Mega Man 6

Flashman First Appearance: Mega Man 2

Freezeman First Appearance: Mega Man 7

Geminiman First Appearance: Mega Man 3

Gravityman First Appearance: Mega Man 5

Gutsman First Appearance: Mega Man

Gyroman First Appearance: Mega Man 5

Hardman First Appearance: Mega Man 3

Heatman First Appearance: Mega Man 2



Iceman First Appearance: Mega Man

Junkman First Appearance: Mega Man 7

Knightman First Appearance: Mega Man 6

Magnetman First Appearance: Mega Man 3

Metalman First Appearance: Mega Man 2

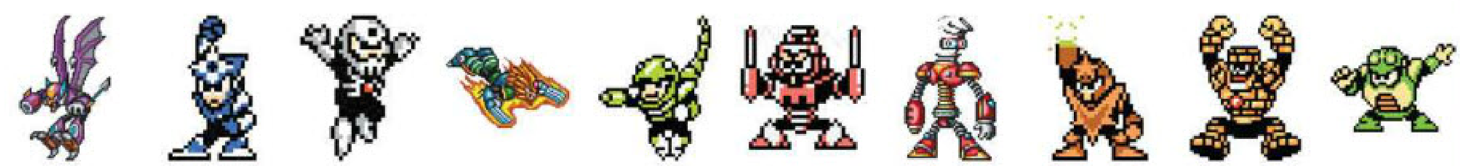
Napalmman First Appearance: Mega Man 5

Needleman First Appearance: Mega Man 3

Pharoahman First Appearance: Mega Man 4

Quickman First Appearance: Mega Man 2

Ringman First Appearance: Mega Man 4



Shademan First Appearance: Mega Man 7

Shadowman First Appearance: Mega Man 3

Skullman First Appearance: Mega Man 4

Slashman First Appearance: Mega Man 7

Snakeman First Appearance: Mega Man 3

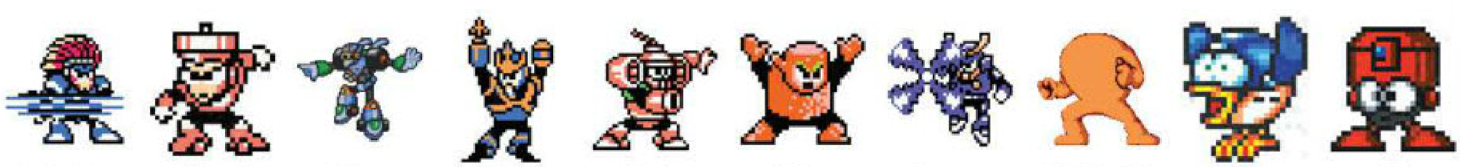
Sparkman First Appearance: Mega Man 3

Spring Man First Appearance: Mega Man 7

Starman First Appearance: Mega Man 5

Stoneman First Appearance: Mega Man 5

Toadman First Appearance: Mega Man 4



Tomahawkman First Appearance: Mega Man 6

Topman First Appearance: Mega Man 3

Turboman First Appearance: Mega Man 7

Waveman First Appearance: Mega Man 5

Windman First Appearance: Mega Man 6

Woodman First Appearance: Mega Man 2

Yamatoman First Appearance: Mega Man 6

The Yellow Devil First Appearance: Mega Man

Beat First Appearance: Mega Man 7

Eddie First Appearance: Mega Man 7

ATARI®

The Atari 7800, once thought of as the saviour of Atari, was a victim of poor timing. Martin Goldberg reveals how it meant to launch the next generation of 8-bit consoles, but ultimately became an 'also-ran' in the post-crash era

The company responsible for the 7800's internals, General Consumer Corporation (GCC), had first come to the attention of Atari in June of 1981. *Missile Command* had been very popular on campus, until some obsessive students began scoring too well on the game. In typical smart guy hacker fashion, and long before today's common console mod kits, three MIT students decided to modify the arcade game to make it harder. Feeling a sense of entrepreneurial drive, they came up with the idea of making a standard kit out of it and selling it, giving arcade operators the ability to breathe new life into their ageing *Missile Command* machines in the form of new gameplay items and difficulty settings. So that June they started advertising, and by July Atari was already launching a lawsuit and, by August, a restraining order.

Most small companies at the time would have folded right there, but not the people at GCC. They were MIT students, after all, and had a strong sense of being smarter than the average guy. Their defence against Atari's suit would be just another interesting puzzle or challenge – things that are entertaining to them. After going several rounds with GCC in federal court, realising that it may be better to tap the talent pool at GCC than squash it, Atari's parent Warner worked out a deal in 1982 in exchange for dropping the lawsuit: GCC would design games for Atari. Atari was forced to drop its lawsuit but did so with prejudice, becoming a reluctant contractor to a company that it was just actively trying to shut down. The now-classic games *Quantum* and *Food Fight* were a result of this deal, as were several games for Atari's 2600 system. During that time, having designed a *Pac-Man* modification kit called *Crazy Otto*, GCC was able to leverage the Warner settlement to approach Bally/Midway with a bluff on the possibility of letting it officially release the game. The bluff was that it had won its lawsuit with Atari – and it worked beyond its wildest expectations. Midway was actually interested in seeing *Crazy Otto* developed into a full sequel to *Pac-Man*, and so *Ms Pac-Man* was born.

By the end of 1983, flush with cash from its growing coin-op and consumer videogame design business, GCC took on its most ambitious project yet: designing a home videogame and computing system.

With no experience in chip, console or computer design, but full of bravado from the company's successes, several GCC employees flew out to California to take a month-long crash course in VLSI (very large scale integration) chip design. The goal was to be able to design the custom chip needed to drive the company's new project, codenamed Spring. Jokingly named after the MIT 'Pre-Spring Fling' dance, it was intended to be a modular computer, IBM-compatible, and have graphics and sound capabilities to rival any upcoming computers or consoles. As former GCC employee Steve Golson put it in a 1994 interview, "Spring was going to be a home computer/game-playing machine to beat them all".

Shortly before the design and layout process, Atari had come out with its 'high-end' gaming system, the Atari 5200. GCC paid attention to how it played out, and in the fashion that had become typical of the company, thought that it could do better. "So we get one of these things, they sent it out to us, and we saw they screwed up. They screwed up in so many ways," Steve Golson also noted. Besides the controller issue and poor game library, most notably missing from the 5200 was 2600 backwards compatibility. It had been advertised the past June at the Consumer Electronics Show, but now was nowhere to be seen. Meanwhile the ColecoVision had come out, and besides enhanced graphics and great arcade ports, it offered full 2600 compatibility via an expansion peripheral. With the ColecoVision beginning to clean up, GCC thought that it had the answer. As Steve Golson put it: "We're the smart guys on the East Coast, and we're just going to save their butts." And GCC was going to have Atari release it whether it wanted it or not, because Warner superseded all management at Atari.

The pitch was for a 2600-compatible system that included souped-up graphics capability by the addition



7800


ATARI
7800
SELECT
RESET
ATARI 7800 VIDEO GAME CARTRIDGE
CROSSBOW
COMMANDO
DESERT



Release Info

- **Year released:** 1984, 1986
- **Original price:** $150 (1984), $80 (1986)
- **Associated Magazines:** *Atari Explorer, Antic, Atarian*



of more hardware-based sprites. This soon evolved into a 2600-compatible system based around the advanced graphics chip being designed for Spring. Spring's graphics system concept was based around building up scan lines and display lists rather than bitmaps, using a process similar to Atari's 8-bit computer line and even to the 2600. For the new console, GCC thought to use double-buffered display line RAM and DMA access, something unheard of for the time in a game console. The solution for the system's 2600 compatibility was to literally include the 2600's graphics and sound chip, the TIA, on the system's main board. The inclusion of the TIA chip influenced the name of the new chip brought over from Spring – or maybe it was the past experiences of these MIT college dropouts. Regardless, the team chose to name the new chip MARIA, calling the full set on the new board TIA-MARIA after the popular Jamaican coffee liqueur. Going with Atari's now-standard approach of numbering its system names, the entire game console project itself would be called the Atari 3600.

The specs for the MARIA given to Atari were impressive to say the least: 320x240 resolution, a palette of 256 colours with 25 available per scan line, and software-based sprite generation and collision detection that could support upwards of 100 objects.

During this process, unbeknownst to GCC, the system would have its first competition with Nintendo. At the time, Nintendo had yet to release its Famicom system in Japan and was looking to find a worldwide OEM manufacturer and distributor in the guise of Atari. After a preliminary discussion between Atari's Ray Kassar and Nintendo's Minoru Arakawa and Howard Lincoln, negotiations began with Atari on 11 April when Nintendo demonstrated the prototype Famicom running an almost-complete *Donkey Kong* and *Popeye*. The offer was for Nintendo to provide 100,000 to 150,000 completely populated Famicom main boards for Atari to throw into its own consoles, all for 5,300 yen (at that time about $20) a piece. It was certainly an attractive offer, but Nintendo at this time was a nobody in the consumer market save for a few previous *Pong* console clones.

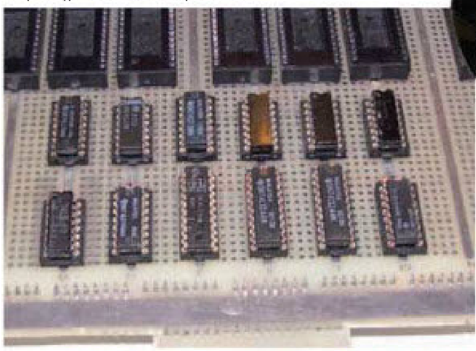
Because of the deal that Warner made with GCC, Atari was also committed to GCC's 3600 console and had to take time to evaluate the strength and weaknesses of both. GCC's MARIA chip design had started on 1 April and wouldn't be done until 1 July. The Atari project managers familiar with the MARIA specs felt that it was a superior system to the Famicom, however some of the Atari engineers appeared to be leaning towards the Famicom and strongly recommended going through with the deal. Atari wanted to stretch out negotiations until at least mid-July to have time to form a valid cross comparison and decide which one should form the internals of the 3600, but the fact that Nintendo had demanded a quick response on interest didn't help. Atari had no choice but to go through with committing to an interest or risk losing the console to a competitor. Over the next couple of months manufacturing and design considerations for the Atari version of the Famicom were discussed – including an adapter to play 2600 games. Several meetings were held as well to hash out manufacturing and supply concerns, the last of which was at the June Consumer Electronics Show in Chicago. The deal, if completed, would ultimately have Atari releasing a Nintendo-based console for that 1983 Christmas season and a total of 2 million units over the contractual period.

"WE'RE THE SMART GUYS ON THE EAST COAST, AND WE'RE JUST GOING TO SAVE THEIR BUTTS"

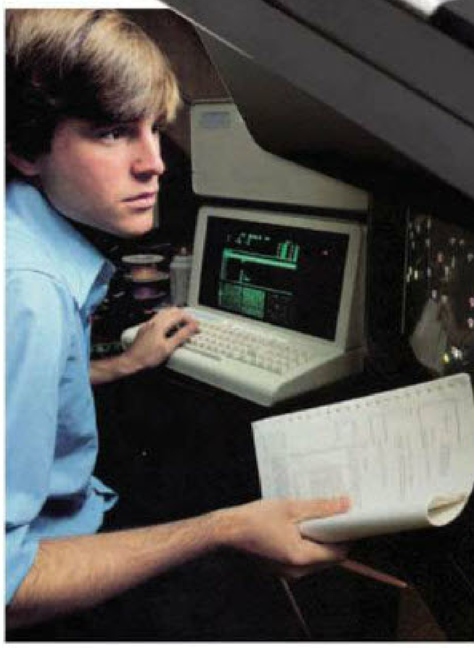
In the meantime, the first MARIA chip sample was returned on 1 July to GCC. Unfortunately, it found that it had a problem: the chip could display a ton of sprites, but had no time in the processor's cycles to move them. Hence the design on the MARIA 2 started, and was not completed until 17 September.

Unfortunately for Nintendo, however, by July Atari's now well-known financial problems were already in full swing. In conjunction with these problems and his stock-selling misconduct, Ray Kassar was out the door during that July. Jim Morgan was brought in right away to replace Kassar, but he wanted to take two months vacation before coming to head things up by that September. Any further talks stalled and ultimately gave GCC more time to finish the revision of the MARIA. By early September, Nintendo, Warner, and Coleco had a meeting with Warner to resolve any issues over *Donkey Kong*'s licensing, and it was assumed that negotiations would continue again for Nintendo's Famicom deal. Unfortunately, when Morgan came back, the first thing he did was freeze all projects for a month. Realising that there would be no time for a Christmas release, and compounded by rumours from people leaving Atari that the company

» A prototype Atari 7800 developer board.











» In the process of programming the 7800's version of *Robotron*.

» [Atari 7800] One of three titles from the old Nintendo licence.

may not even have the money for the deal because of its financial problems, Nintendo was unwilling to spend any more time in limbo and decided to go it alone.

By that autumn, Morgan knew what direction he wanted to take Atari in to save it and where GCC's project fit in the scheme of things. He threw Atari's full weight behind the 3600, issuing memos that it was to supersede all product development, including Atari's own ongoing console and computer projects. This was going to be Atari's flagship console and Morgan's saviour of the consumer game console division. The target was to produce a million units for the first year and an additional 3 to 4 million in the following years.

For Atari's part, it began with leveraging some of its previous design work. The case design for the 3600 was taken from the previous design spec for the Atari 2800 – a Japanese version of the 2600. Atari's Barney Huang took the futuristic and sleek design profile of the 2800 and combined it with some of the high-end accoutrements of the 5200's case to form the 3600's outer shell. The 3600's controllers were taken from the 2600 Jr project, a highly cost-reduced version of Atari's flagship 2600 then in development. The CX24 'Super Controllers', as they were then called, were designed in a similar wedge shape to the 5200's controller, including side-mounted fire buttons on both sides. A design decision intended to alleviate a common complaint of the original 2600 joysticks by left-handed players – Atari's original solution was to show how to open up the sticks and flip the PCB around to support holding it 'lefty' – GCC would be able to utilise the extra button for more play options.

Atari and GCC also worked out a solution to a problem facing both the 2600 and 5200: anyone could code and release games for them, no licensing required, because of a previous lawsuit between Atari and Activision. This had opened up a flood of low-quality games for the console, something that Atari didn't want to see on its new high-end system. The solution was a unique and encrypted digital signature contained on all cartridges, that when not present would automatically lock the system into 2600 mode.

GCC, meanwhile, began working on some key expandability features that it wanted the 3600 to have, some of which were also influenced by its original vision for Spring. First and foremost was the computer/keyboard expansion. Everything would centre on a unique keyboard and cartridge combination that would leverage Atari's existing computer peripherals via a built-in Atari Serial I/O (SIO) port and add 16K of RAM to the system's standard 4K. The keyboard itself would be a fully functional keyboard comparable to those already used in Atari's XL line of computers, and would plug in to joystick port 2. GCC also designed an expansion port to further support its growth as a computer, with things like additional RAM expansions and a futuristic LaserDisc interface. Atari 3600-specific versions of Atari Basic and Atari's VideoWriter word processor were also developed to be bundled with the expansion, and VideoWriter was even expanded to allow joystick or trackball control for selecting and manipulating text. The computer expansion would give the buyer the ability to turn their console into a legitimate 8-bit computer comparable to Atari's existing low-end Atari 600XL.

GCC also realised that with the evolution to true arcade-quality graphics, other features such as high score saves would need to be supported. To this end,



it developed a high score expansion that plugged in to the cartridge port and would store the top five scores of any 65 games plugged in to it. Upon plugging in the expansion cartridge, the player would be able to immediately customise it with their own name. If that wasn't enough, it was even smart enough to tell your difficulty settings and have separate score charts for each setting on a game.

A funny thing happened during the months leading up to the introduction of the 3600 in May of 1984: the US videogame industry's crash began hitting its crescendo. Throughout 1983, Atari's financial problems had begun not only to become a rallying cry on the lack of investor confidence across the industry, but it showed some serious changes beginning to ripple through the market. By early 1984, both game publishers and console manufacturers were regularly announcing layoffs and closures. Atari itself suffered $539 million in losses and laid off over a third of its 10,000 employees. By January, Morgan had succeeded in eliminating 40 per cent of Atari's overhead, feeling that it was "inexcusable for a company that sells a billion dollars worth of goods not to make a profit". The overhead cuts were just the beginning, though, as Morgan sought to completely reorganise Atari's consumer division. First, he sought to improve the company's reliability image by not announcing a single product that wasn't already ready to ship, and second to cut dead weight and focus on a few profitable videogame and computer products. Morgan's new mantra for Atari was: "We're in the business of enhancing people's lives through interactive electronics."

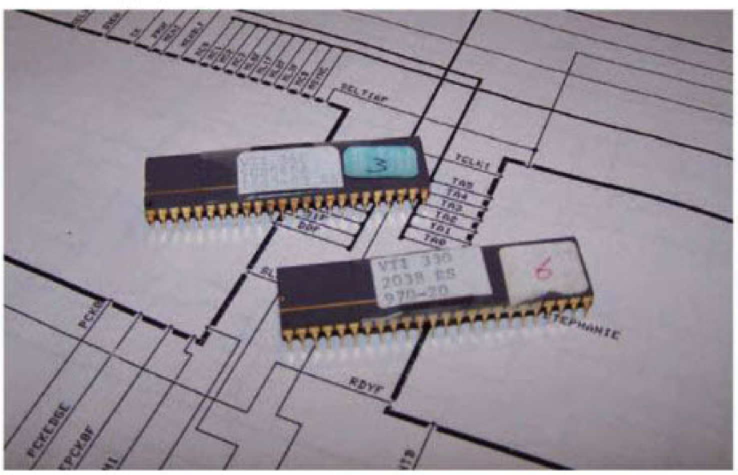
It was a view reminiscent of Atari's original 'Innovative Leisure' logo.

Under this new plan, the 5200 was the first casualty, with manufacturing halted that January. Sales of the 2600 were actually up 40 per cent on original forecasts, and with the eventual release of the 2600 Jr the overhead on those would be cut drastically. With the 3600 now firmly poised to be the new flagship console, it would have to venture into choppy waters – but it would do so with a new name. The 3600 designation was considered too low for a top-of-the-line console in its current number scheme, and it was decided to go with 7800 to denote 5200-style advanced graphics and 2600 backwards compatibility: 5200 + 2600 = 7800. By the time of its official introduction on 21 May 1984, its title was fully expanded to the 'Atari 7800 ProSystem', and its controllers were now referred to as Proline controllers.

A total of 14 titles were announced between May and June: *Ms Pac-Man, Pole Position II, Centipede, 3D Asteroids, Joust, Dig Dug, Desert Falcon, Robotron, Galaga, Xevious, Food Fight, Ballblazer, Rescue On Fractulus!*, and *Track And Field*. Learning from its error of using *Super Breakout* as the pack-in title for the 5200's launch, Atari would be including *Pole Position II* as the pack-in for the summer launch. By September, it was to be built in to the 7800 itself.

Unfortunately, the 7800 was met with mixed opinions, many of which questioned Atari's wisdom in releasing a new console in that climate. Atari's financial problems were producing almost daily news coverage, and it was also no secret that Warner had been looking to dump the faltering Atari on someone

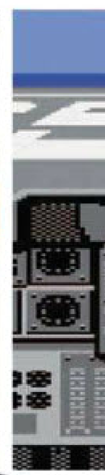




» GCC's MARIA chips, designed for the 7800.



» The 2600 Jr cleared the way for the 7800 to become Atari's flagship console.











Community

1. Atari Museum
www.atarimuseum.com
■ The Atari Museum, home base of the Atari Historical Society, is the premier Atari historical information and archive site. Run by noted Atari historian Curt Vendel, the site houses information and exclusive material not found anywhere else thanks to Vendel's close ties to former Atari employees.

2. AtariAge
www.atariage.com
■ If you want to find the current fan base of the 7800, you'll find it at AtariAge's bristling online community. The de facto community site for the Atari scene, you'll also find a store that supports current 7800 homebrew authors with full packaged releases of their games.

3. The Atari 7800 Page
www.atari7800.org
■ Don't let the minimalist design fool you. The site is chock full of great 7800 information. Featuring reviews, technical documents, projects, photos of the original press kits and more, this site is a true gem.

4. Dan B's Atari 7800 Tech Page
www.atarihq.com/danb/a7800.shtml
■ Besides the previously mentioned AtariAge, if you're interested in developing your own 7800 games then this is the place to start. A legend in the classic videogame homebrew hardware and software scene, Dan Boris's page focuses on all the technical information and tools that you'll need to get started.

» [Atari 7800] *Tomcat*, the F-14 fighter simulator.





else. Many news sources pondered on the likelihood of this console having any real impact as a saviour of the company. Likewise, the selection of titles was considered unflattering and already old, since many of the titles had already been released on other platforms. Undaunted, however, Atari had a very successful test run in New York in June, but it was to be a short-lived success. By 2 July it was announced that Atari's consumer division had been sold to former Commodore head Jack Tramiel.

To say things were a mess after the purchase was an understatement. Tramiel had purchased Atari Consumer for its brand name, manufacturing, distribution network, and current line-up of products. These were going to keep his new company, Atari Corporation, afloat while he worked on his next-generation computer. However, because ownership of patents, licences and products were now split between the coin-operated division – now called Atari Games – and Warner itself, it became a nightmare of litigation over the next several years. The 7800 was the first casualty of this, with Warner actually owning the console. GCC still hadn't been paid for the MARIA chip nor the launch titles that it programmed, and Warner wanted Tramiel to pay for it. Tramiel wanted Warner to pay and felt that it should have been part of the original deal, his anger apparent when an impatient employee started trying to put pressure on him to continue with the planned release of the 7800. He responded by throwing the system off his desk, firing said employee not long after. The 7800 remained in limbo until May 1985, when Tramiel finally relented and sent GCC its payment. He then began negotiating for payment on the original launch titles, which meant he had to begin looking for someone with experience in game consoles to start up a videogames division again.

That someone turned out to be Michael Katz, then head of top computer software company Epyx. Tramiel made it clear that he wanted Katz to bring back the 2600 via the cost-reduced 2600 Jr, relaunch the 7800, and develop some more timely games for it. Katz was on the job by early November, and by December they had introduced the 2600 Jr. That January at CES Atari was publicly announcing the relaunch of the 7800, and the original manufacturing run was out the door by the spring. Gone was the computer expansion and high score cartridge, however, but in place was a new-found sense of hope in the industry. In contrast to last time around, the 7800 was warmly received – as were Nintendo's NES and Sega's imminent Master System, as a sign of a reviving industry. By Christmas all three were head-to-head, but Nintendo was the clear winner by 1986, mainly due to its strong library of titles.

"With Nintendo the clear market leader, it had a lock on the latest titles"

Where once licences were split between different platforms and a company may port titles to competing consoles, the market had changed. Much development in the arcades had switched to Japan, and with Nintendo's Famicom the clear market leader there, it had a lock on the latest titles. Publishers had to get a licence with Nintendo to release for the NES, which also barred the games from being released on other consoles. While the previous Atari had been at the top of the heap, its current form found itself with few options. Katz's solution was to use his old contacts in the computer industry to get licences to what he considered hot computer titles.

The worldwide launch occurred in 1987, and the PAL version of the 7800 ended up including the promised built-in *Asteroids*. The system's sales were respectable but still distant to Nintendo's dominance. Atari and Sega both sued Nintendo over its unfair lockout practices, but both ultimately lost due to poorly presented cases. As Katz put it: "Jack was too cheap to hire decent lawyers." With the switch to 16-bit consoles by the early Nineties, Atari shut down its entire legacy product line, including the 2600 and 7800 consoles. By the time this announcement was made in January 1992, the 7800 had sold 3,772,751 units in the US alone during its lifetime. Sadly, though, it never reached its full envisioned potential.

A special thanks to **atariage.com** for the additional images.



Perfect Ten Games



01

POLE POSITION II

» **RELEASE:** 1984
» **PUBLISHER:** ATARI
» **BY THE SAME PUBLISHER:** STAR WARS

01 **When it was** first to be released as a pack-in in 1984, the Namco-authored and Atari-distributed *Pole Position II* was at its peak of popularity in the arcades and was a perfect introductory title to show off the system's capabilities against the likes of the ColecoVision's great port of *Turbo*. Exclusive to the Atari 7800, it's a faithful and fun port, save for the limitations of the 7800's 2600-based sound. Atari planned to allow its more-advanced POKEY sound chip to be included in cartridges to resolve this, but this game didn't get that treatment. Unfortunately, it suffered the same thing as the rest of the 7800's excellent arcade launch titles: by 1986 they were a bit outdated on the market.

PAC-MAN COLLECTION (HOMEBREW)

» **RELEASE:** 2006
» **PUBLISHER:** BOB DECRESCENZO
» **BY THE SAME PUBLISHER:** ASTEROIDS DELUXE

02 **For years the** special software for generating each cartridge's encrypted validation key was thought lost. Then, in 2001, an Atari ST computer with the original key generation program was found, allowing a 7800 homebrew game community to sprout up once it made it into the public domain. *Pac-Man Collection* is a direct result of this, and is a must-have for any 7800 collector. Featuring near-perfect arcade ports of the original *Pac-Man* and *Ms Pac-Man*, arcade hacks like *Hangly Man* and *Pac-Attack*, the multiple maze *Ultra Pac-Man*, and even components like random mazes for *Pac-Man* and *Ms Pac-Man* makes it a formidable compilation.



02

JOUST

» **RELEASE:** 1984
» **PUBLISHER:** ATARI
» **BY THE SAME PUBLISHER:** CENTIPEDE

03 **The 7800 received** an almost-perfect port of the early Eighties arcade favourite *Joust*. Programmed by GCC, the creator of the 7800, it pulled no stops in delivering an extremely faithful port. Even closer than the NES's 1988 release – and without that platform's addition of cheesy music – everything is there, from the actual arcade-style title screen down to the accurate sounds. An excellent play, it was yet another strong 1984 launch title that would have added to the 7800's claims of being the best, most arcade-perfect console experience on the market.

GALAGA

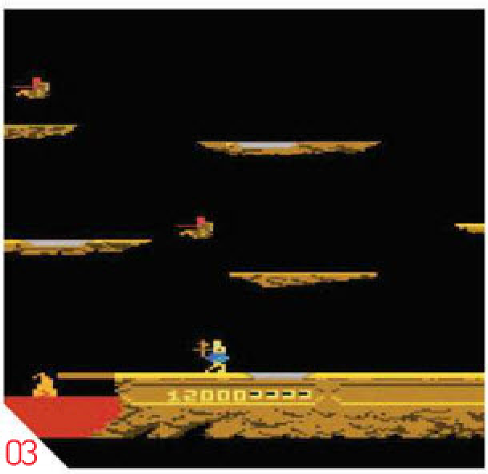
» **RELEASE:** 1984
» **PUBLISHER:** ATARI
» **BY THE SAME PUBLISHER:** 720°

04 ***Galaga* received the** same treatment by GCC to produce another great arcade port and impressive launch title. Unlike the later NES port, the 7800's version has a visibly smoother motion to the sprites and really shows off the system's much-lauded multi-sprite capabilities. Beyond that, it's a trade-off between the two ports. The 7800 reproduced more of the feel and layout of the arcade version, while the NES edition changes the aspect ratio and adds a title and score area off to the side, as well as including level counter icons missing from the 7800 version.

DESERT FALCON

» **RELEASE:** 1984
» **PUBLISHER:** ATARI
» **BY THE SAME PUBLISHER:** BATTLEZONE

05 ***Desert Falcon* is** one of the few planned launch titles that wasn't a port. It's an original game, though done in a *Zaxxon*-style scrolling isometric format. Based around an Egyptian motif, you play a falcon that wants to fly about Egypt getting treasure and firing at bad guys. With the twist of being able to land and walk, it adds elements from another isometric arcade favourite, *Congo Bongo*. You can also collect various hieroglyphics to get power-ups, which vary depending on the combinations. You can't go wrong with this game for your collection. All in all, a great early original title.


03

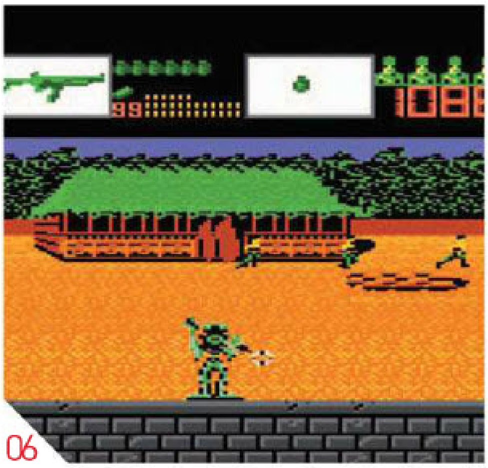


04



05

The 7800's catalogue wasn't exactly bursting at the seams, but it nevertheless had plenty of desirable titles on it, especially if you loved arcade ports...


06



07



08

ALIEN BRIGADE

» **RELEASE:** 1990
» **PUBLISHER:** ATARI
» **BY THE SAME PUBLISHER:** FATAL RUN

06 **The Atari 7800's** answer to *Operation Wolf*, this game is actually hard to find because of its release late in the 7800's lifetime. It's one of only four lightgun games released for the 7800, and really a lot of fun to play. A sort of primordial plot version of Atari Games' later *Area 51* release, you play a soldier battling aliens trying to take over the bodies of your fellow soldiers. Featuring higher-end graphics and gameplay, the game is also unique in that, at completion, it actually advertises – if not commands you to play – another game released at the time: *Planet Smashers*.

FOOD FIGHT

» **RELEASE:** 1984
» **PUBLISHER:** ATARI
» **BY THE SAME PUBLISHER:** HAT TRICK

07 **An excellent port** of the arcade game that follows the fantasy of any kid who has seen the infamous food scene in *Animal House*, *Food Fight* lets you fight with food – *Robotron*-style. You play Charley Chuck, who instead of saving the human race is saving an ice cream from the perils of melting. Blocking your way are chefs hell bent on keeping you from your tasty treat, with your own source of protection being food that you can throw. Just as fast as *Robotron*, it shows off the 7800's capability to faithfully reproduce arcade titles compared to the other consoles on the market.

DARK CHAMBERS

» **RELEASE:** 1988
» **PUBLISHER:** ATARI
» **BY THE SAME PUBLISHER:** KLAX

08 **If *Dark Chambers*** looks similar to Atari Games' *Gauntlet*, that's because it's based on its ancestor *Dandy* by John Palevich. Originally released in 1983 through the Atari Program Exchange (APX), *Dandy* was taken without the author's consent and morphed into *Gauntlet*. Palevich soon negotiated the rights to *Dandy* with Atari and continued its development on his own, but was never given credit in *Gauntlet*. However, the *Dandy* update *Dark Chambers* appeared on the 7800 and he was given full credit. And it's just as fun to play as any of the previous versions!



09

CENTIPEDE

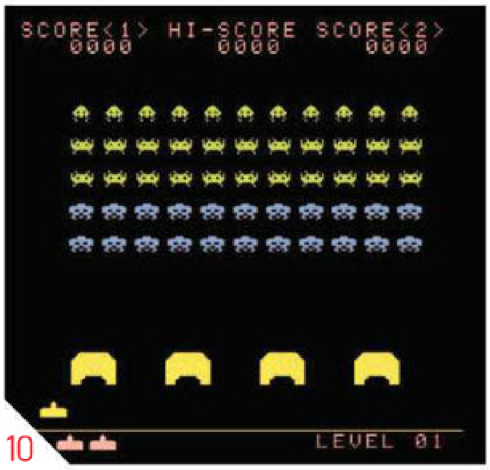
» **RELEASE:** 1984
» **PUBLISHER:** ATARI
» **BY THE SAME PUBLISHER:** MILLIPEDE

09 **What can we** say about *Centipede* that hasn't already been said? It's a classic arcade shooter that one would expect to see on an Atari console, and once again GCC did a near-perfect port. About the only thing lacking is, of course, a 7800 trackball, but the flawless motion and gameplay more than make up for the omission. This is the type of game that you think of when you think 'lots of sprites', and the 7800 handles them easily. Even the sounds are spot-on to the orginal arcade version. A superb launch title for 1984, it's also one of the few timeless early 7800 games that still held up during its relaunch a couple of years later, and it's even an excellent game today.

SPACE INVADERS (HOMEBREW)

» **RELEASE:** 2008
» **PUBLISHER:** BOB DECRESCENZO
» **BY THE SAME PUBLISHER:** SPACE DUEL

10 **Unfortunately, if you** wanted to play *Space Invaders* on your 7800 you were limited to the 2600 version. By 1986, Taito was already under lockout from Nintendo, whose Famicom got an updated port. While the 2600 version is respectable and still fun to play, it hardly takes advantage of the 7800's more advanced capabilities. That situation was solved by homebrew author Bob DeCrescenzo, who also brought you the *Pac-Man Collection*. *Space Invaders* for the 7800 gives you an arcade-perfect port, right down to the overlay colouring schemes of the original, and offers a multitude of 2600-esque gameplay options such as moving shields, zig-zagging lasers and invisible invaders.

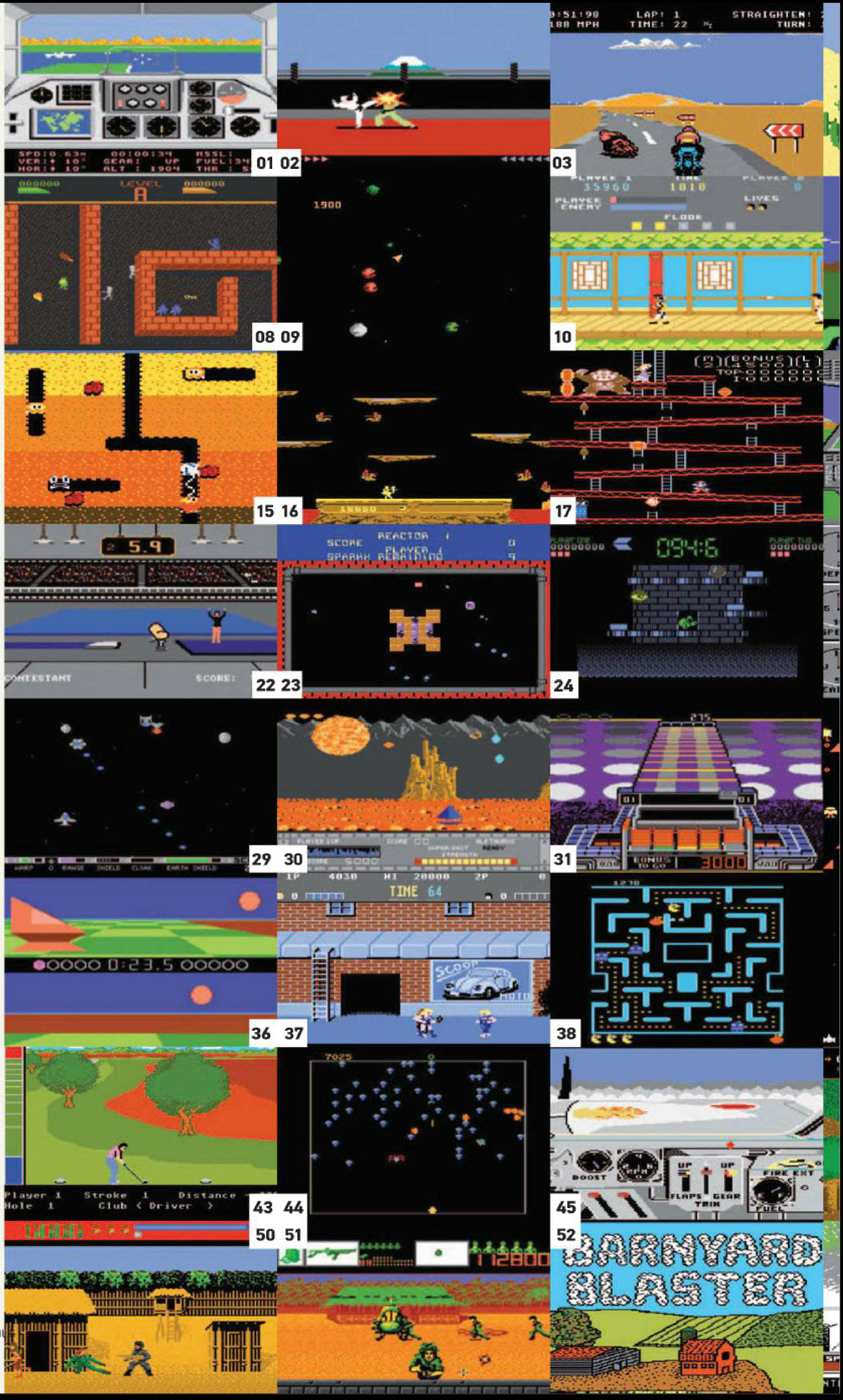


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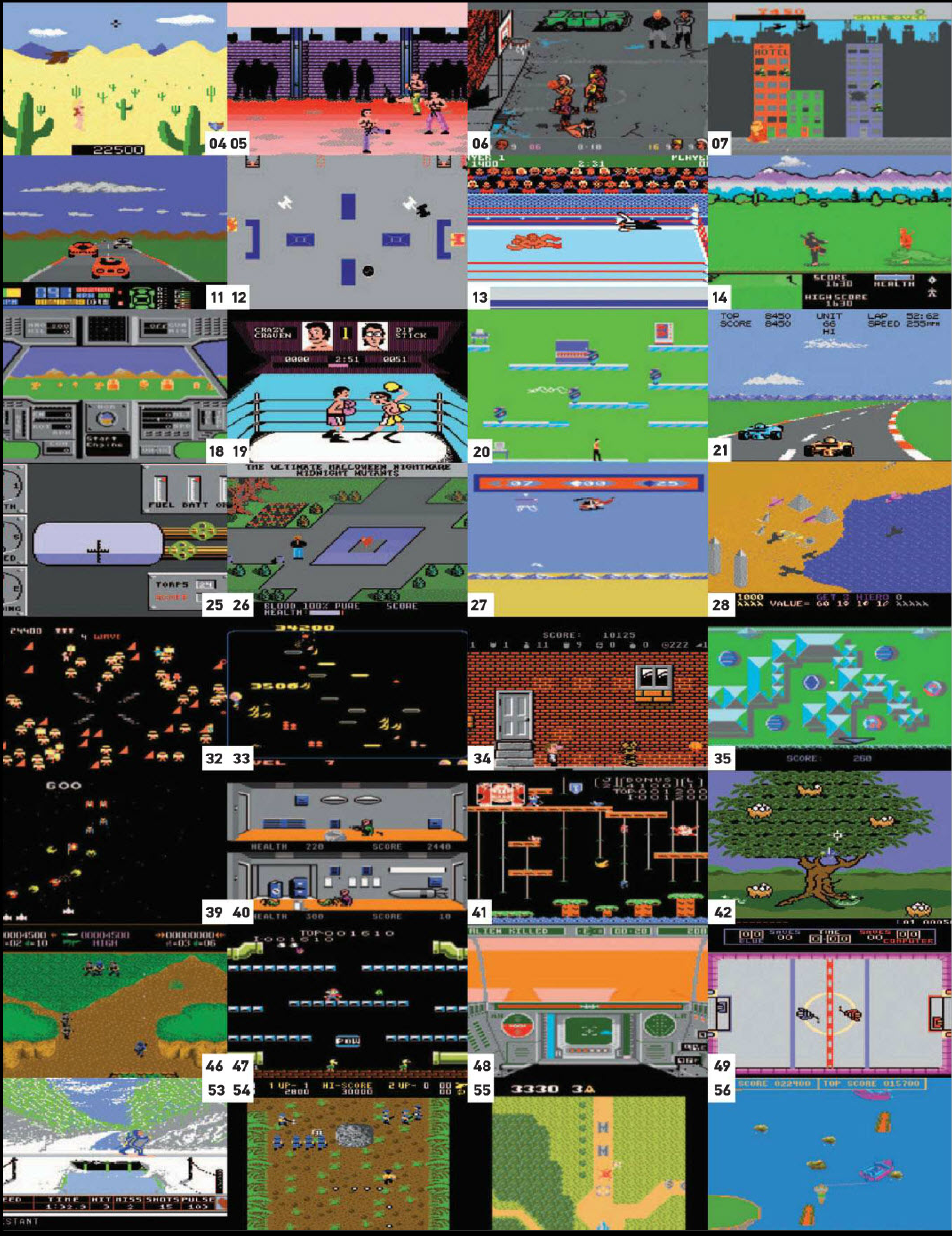
ATARI® 7800 and the rest...

Atari's 7800 was certainly short-lived, but it did manage to feature a solid array of arcade conversions. How many of the following titles have you played?

1 F-18 HORNET
2 KARATEKA
3 MOTOR PSYCHO
4 CROSSBOW
5 PIT FIGHTER
6 BASKETBRAWL
7 RAMPAGE
8 DARK CHAMBERS
9 ASTEROIDS
10 KUNG FU MASTER
11 FATAL RUN
12 COMBAT 1990
13 MAT MANIA CHALLENGE
14 NINJA GOLF
15 DIG DUG
16 JOUST
17 DONKEY KONG
18 SUPER HUEY
19 FIGHT NIGHT
20 IMPOSSIBLE MISSION
21 POLE POSITION II
22 SUMMER GAMES
23 MELTDOWN
24 TOWER TOPPLER
25 GATO
26 MIDNIGHT MUTANTS
27 CHOPLIFTER
28 DESERT FALCON
29 PLANET SMASHERS
30 SENTINEL
31 KLAX
32 ROBOTRON: 2084
33 FOOD FIGHT
34 SCRAPYARD DOG
35 JINKS
36 BALLBLAZER
37 DOUBLE DRAGON
38 MS PAC-MAN
39 GALAGA
40 XENOPHOBE
41 DONKEY KONG JR
42 CRACK'ED
43 MEAN 18 ULTIMATE GOLF
44 CENTIPEDE
45 ACE OF ACES
46 COMMANDO
47 MARIO BROS
48 RESCUE ON FRACTALUS!
49 HAT TRICK
50 MISSING IN ACTION
51 ALIEN BRIGADE
52 BARNYARD BLASTER
53 WINTER GAMES
54 IKARI WARRIORS
55 XEVIOUS
56 WATERSKI



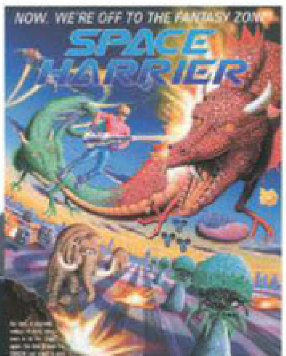
Screenshots courtesy of AtariAge


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22500
HOTEL
GAME OVER
SCORE 1630
HEALTH
HIGH SCORE 1630
CRAZY CRAVEN
DIP STICK
2:51
Start Engine
TOP SCORE 8450 8450
UNIT 66 HI
LAP 52:62
SPEED 255MPH
FUEL BATT
TORPS
THE ULTIMATE HALLOWEEN NIGHTMARE
MIDNIGHT MUTANTS
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IN THE KNOW

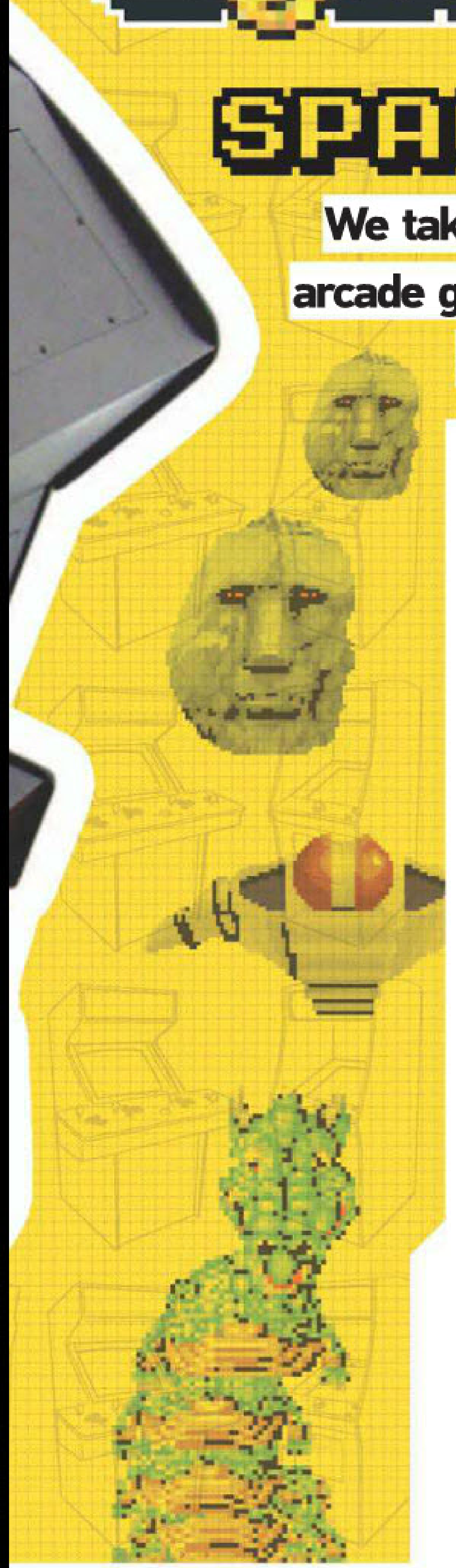
- » **Name:** Space Harrier
- » **Released:** 1985
- » **Publisher:** Sega
- » **Developer:** In-House
- » **Price:** £250-£400
- » **By The Same Developer:** Golden Axe



COIN-OP CAPERS

SPACE HARRIER

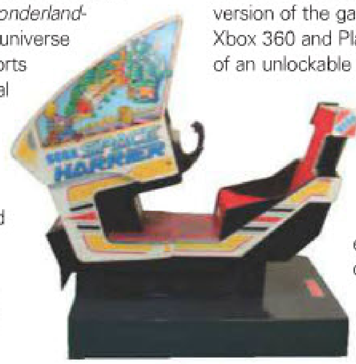
We take a definitive look back at a classic arcade game and unravel its brilliance with the help of those who know it best



The brainchild of Sega legend Yu Suzuki, *Space Harrier* made its debut to throngs of excitable Japanese people at the 1985 Amusement Machine Show in Japan. When it arrived in arcades later that year, it shook things up in more ways than one. Resembling a kid's sit-in fairground ride spliced with an arcade machine, *Space Harrier*'s vehicular cabinet was a perfect equal for the game's dazzling 3D graphics. Oozing quality from every component – its sublime soundtrack and digitised speech bleating from its twin stereo speakers, the motorised chair capable of swinging players around with real aggression, and the impressive visuals running from Sega's powerful MC68000 arcade board – it was unlike anything anyone had seen before, and ushered in a new wave of exhilarating arcade games for which Sega would soon be renowned.

Three versions of the cabinet were produced – a sit-down, an upright and the deluxe rolling variant – and all were controlled using an analogue flightstick, giving players meticulous control over the game's titular blond hero. But it was when the controls, sounds and sights were aligned with the rolling cabs that *Space Harrier* and its gameplay came into its own. Pulling on the stick gently would not only cause your hero to move appropriately, it would also cause the cab to jolt and tilt, heightening the overall experience while giving you a real sensation of flight (or close to it).

Space Harrier offered a hectic and unique arcade experience, and for an arcade game designed to suck you in and spit you out, at 18 levels long, it was surprisingly lengthy. The game was also a real pig to finish, with stages 14, Astute, and 17, Nark, proving common sticking points, and practically everything that flashes up on screen (except yourself and the Furby you ride during the bonus rounds) existing to either kill or hurt you. Another interesting point about *Space Harrier* is that the setting was the Fantasy Zone, the setting for Sega's side-scrolling shmup of the same name. In *Harrier*, however, it was depicted as being a bizarre *Alice In Wonderland*-style checkerboard universe brimming with all sorts of weird and magical creatures from a *Bad*-era Michael Jackson pop video. Memorable adversaries included cyclopic Woolly mammoths, a robot with cherries for eyes, a Chinese dragon, and some angry Easter Island masonry, and every level introduced more new enemies for Harrier to blast away. Speaking of Harrier, your hero is a blond chap dressed in blue trousers and a red sweater who has the power of flight thanks to a rather nifty jetpack/cannon thingy he carries under his arm. He's a seasoned space-war veteran tasked with restoring peace to a place called Dragon Land from a band of hostile alien creatures who are trying to depose it.



Owing to its popularity, *Space Harrier* is one of the most converted games of all time, and still pops up on modern machines to this day. Despite its odd disappearance on Mega Drive (although the console did receive an exclusive sequel) it's actually one of the few Sega series to have made appearances on every single Sega console manufactured. With late ports coming to the 32X, Saturn (via the *Sega Ages* edition) and Dreamcast in the form of *Yu Suzuki Game Works Vol 1* and mini-games in the *Shenmue* series. Most recently, an arcade-perfect version of the game has appeared on Xbox 360 and PlayStation 3 courtesy of an unlockable on *Sega Mega Drive Collection*. And the game also got the *Typing Of The Dead* treatment, finding players frantically destroying enemies by bashing out Japanese words on their computer. Sadly, this game was only released in Japan.



COIN-OP CAPERS

THE EXPERT



Something of a *Space Harrier* expert, Nick Hutt holds the high-score record on the deluxe version and is second in the overall *Harrier* high-score rankings on Twin Galaxies

PROFILE

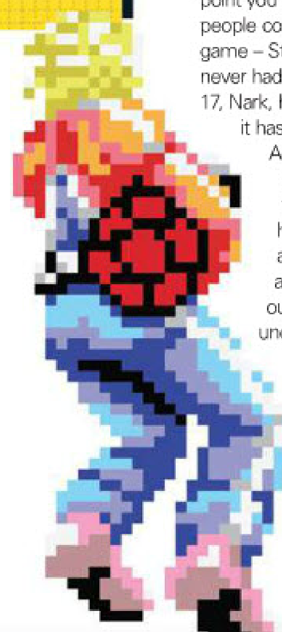
» **Name:** Nick Hutt
» **Age:** 38
» **Date of birth:** 2 April 1971
» **Top five games:**
Space Harrier
OutRun
Mad Planets
Star Force
Mr Do

Please share your first impressions of the *Space Harrier* machine and tell us what impressed you most?

I seem to remember that it was on a seaside visit to Eastbourne, it was on the pier and I was just totally blown away by the moving cabinet, graphics and sound. I just had to have a go.

What is your favourite stage in the game, and which do you find the trickiest to finish?

I would have to say Stage 15, Vicel. I love the way the rocks kind of fall out of the sky and home in on your position, at this point you are also through what some people consider the trickiest stage of the game – Stage 14, Asute – although I've never had a problem with it. I find Stage 17, Nark, harder as it throws everything it has at you during this stage. Also the end-of-level-boss, Ida, on Stage 2 is probably the most unpredictable and hardest to kill without losing any men, because if you accidentally shoot the middle out, the remaining heads will spin uncontrollably on to your position.



Do you remember the first time you finished the game? If so, can you tell us about that experience?

I believe it was on Brighton Pier, they had two deluxe versions sitting side by side with the volume cranked right up, I remember pumping a load of money into it and kept continuing until I beat the game, I had a huge crowd around the machine I was playing as I don't think anyone had ever seen anyone get as far into the game as I was. It felt pretty amazing and it's something you just don't get in amusement arcades nowadays.

Why do you think *Space Harrier* has remained such a popular game among retro gamers?

For many it's a game they will always remember, because most decent arcades had the full-blown deluxe version sitting there blasting out 'Welcome to the fantasy zone. Get ready'. And for its time the graphics, sound, and moving seat were just totally groundbreaking and amazing. On occasion, I've had youngsters who are really into their computer games come over and play on my machines and the first ones they always go for and keep going back to play again and again are *Space Harrier* and *OutRun* so it's proof that they can still hold their own with the modern console and PC games of today.

Are you any good at similar Sega arcade games such as *After Burner* and *Thunder Blade*?

I'm afraid not. Although I like *After Burner*, I never seemed to be able to play it well. With all the smoke from missiles all over the screen, it made it very hard to see what was going on. Also, most *After Burner* machines seemed to vanish

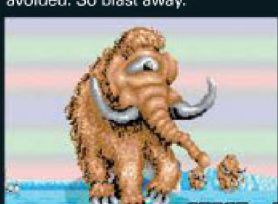


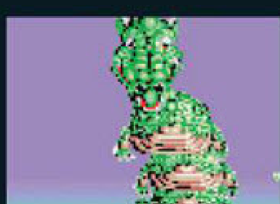
» Nick demonstrates why he's the record holder on the deluxe version of *Harrier*.

KNOW YOUR ENEMY

Discover why *Space Harrier* gained a reputation for its imaginative enemies

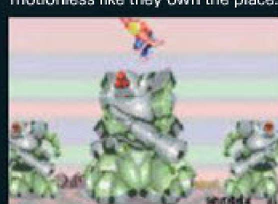
Woolly mammoths
This gentle breed doesn't actually attack Harrier, instead they act like giant obstructions to be avoided. So blast away.





Dragon (Uriah)
Snaking back and forth, the Stage 1 boss shows off the super scaling technique of the sublime graphics. Watch out for fireballs.

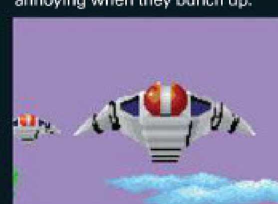
Robots
These gun-wielding robots either hover around launching oversized rockets, or stand motionless like they own the place.





Easter Island Masonry
At first the Moai heads don't fire back: they fly close to the screen but don't make contact. In later stages they change their tune.

Spaceships
These are the first enemy spaceships you encounter. They're cannon fodder and can be annoying when they bunch up.



from my local seaside arcades pretty quickly so I never got the chance to play it enough to master it. *Thunder Blade* never really got any attention from me whatsoever. I always thought the cab was a bit of a cop out where, effectively, you made the machine move yourself, it wasn't motorised.

■ Can you tell us a little more about your impressive *Space Harrier* high-score record?

I set my Twin Galaxies-verified *Space Harrier* score of 35,774,740 at the Classic Gaming Expo UK in 2005. It felt pretty amazing because I had a huge crowd gathered around the machine. It has very recently been beaten by Philip Campbell with a score of 38,530,200 on a standard sit-down, but my own personal best of 37,807,960 on my rolling version is not far behind.

■ What's the secret behind achieving such an impressive score on the *Harrier* machine?

The secret to actually achieving such a score all comes down to Wee Wee Jumbo, the boss at the end of Stage 17, Nark, and being good enough to get there with all your lives, because, trust me, you will need them all here if you want a big score. The trick is to try and not actually kill him, but instead to try and shoot everything the game throws at you while trying to avoid getting shot by him. Once you're down to your last life, you need to kill Wee Wee Jumbo as fast as possible so you can progress to Stage 18 where you have to kill all the end bosses all over again, it's fairly trivial to complete the game unless you're unlucky enough to lose your last life to Ida.

■ Have you discovered any interesting elements or hidden secrets within the game?

An interesting thing to note about the end of Stage 17 is that the game behaves slightly differently: the speed of the projectiles shot at you by Wee Wee Jumbo keep increasing in speed and don't reset back to normal when you lose a life. This makes it rather tricky to hang around here for any significant length of time – for the extra score – as the projectiles eventually appear on top of you, resulting in instant death. If you decide to cheat here – using the game's Continue feature – you can make the game crash when the projectiles eventually appear off screen behind your position. If you time it right, though, and you manage to kill Wee Wee Jumbo before the game crashes, and your score is high enough, you will get a slightly different ending with lots of mushroom-cloud explosions going off as you ride off on Uriah into the distance. ✱

NICK'S SURVIVAL GUIDE

The expert *Space Harrier* player reveals his personal tips and strategy to mastering the game and racking up those high scores

1 ■ MAINTAIN CONTROL

Space Harrier uses an analogue controller so thrashing it wildly will land you in a lot of trouble. You can also fire a lot faster if you use the shot buttons on the control panel rather than the trigger buttons on the control lever.

2 ■ KEEP MOVING

The enemy will always fire on your last position so don't sit still in one place for too long; try to keep moving. If it gets too hectic and you're in trouble, circle the screen, this will usually get you out of trouble unless you're unlucky enough to get impaled on a pillar.

3 ■ RAISE YOUR GAME

Objects in the air are worth more points than objects on the ground so always try to take out the objects in the air before annihilating the scenery. This should help you to rack up a bigger score.

4 ■ KEEP YOUR HEAD

Ida at the end of Stage 2 is probably the hardest boss to kill without losing a life, be careful not to take out the head in the middle as this will result in the remaining heads spinning out of control on to your position, which could result in the loss of a valuable life and some score.

5 ■ WEE WEE ALL THE WAY HOME

Finally, for a really big score you need to master the art of survival at the end of Stage 17, Nark. Try not to shoot Wee Wee Jumbo as quickly as possible, instead toy with him and shoot all the things the game throws at you and watch your score mount up.

THE SEQUELS

A look at the raft of sequels spawned by the popular space shooter



Space Harrier 3D

Released: 1988

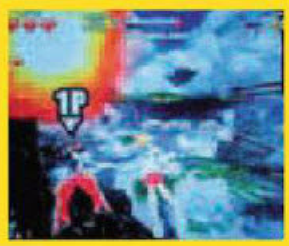
Released to make the most of the quirky 3D glasses peripheral that Sega released for the Master System, *Space Harrier 3D* featured all-new levels and enemies but coated them with a fancy funky 3D filter that took a while to get used to. For all its promise, the game itself didn't live up to expectations. It was the second game released for the SMS and the first sequel to *Space Harrier* as it predates *Space Harrier II* by one year. It's also deemed a bit of a collector's item.



Space Harrier II

Released: 1989

Instead of releasing a straight port of *Space Harrier* on Mega Drive, Sega set AM2 to work on creating an exclusive launch sequel for its new 16-bit console. The game was just more of the same *Space Harrier* action but shorter (just 12 levels). Harrier is forced to wear a dodgy red cat suit and players can now choose the order in which they tackle the stages, which has no bearing on the actual game, other than if you're rubbish at the game you can pretend you're not.



Planet Harriers

Released: 2002

Only released in arcades, *Planet Harriers* had little in common with the previous games. It was two-player, didn't feature the iconic blond hero – instead it had four badly dressed European kids with giant hypodermic needles or guitars for weapons – and adopted a *Panzer Dragoon*-style lock-on weapon system, which made it feel more like a sub *Panzer Dragoon*. Interestingly, it also highlighted the alignment of the two worlds of *Space Harrier* and *Fantasy Zone* with Opa-Opa as a secret character.



Space Harrier remake

Released: 2003

Developed by 3D Ages (a joint development studio by Sega and D3 Publisher), this 3D update was released on PS2 in 2003 as part of the *Sega Classics Collection*, also comprising lacklustre 3D remakes of *Altered Beast* and *Golden Axe*, among others, and was released separately as part of the *Sega Ages* budget collection in Japan. A functional, if ugly, 3D offering, the drab polygon graphics really aren't a patch on the original's beautifully colourful sprites.

COIN-OP CAPERS

THE MACHINE

We caught up with Matthew White to ask him about this lovingly restored rolling *Space Harrier* cab. For more info about his machine, check out his website at www.mandccars.com/spaceharrier.htm



I'm Matthew White and I'm a car dealer from Derbyshire. I fell in love with *Space Harrier* when I first saw it in 1986 in Blackpool where the masses of people queuing up to play it – me included – could only get past Stage 1. This machine was one of the first arcade simulators, and was full of cutting-edge technology. From that day on I've always followed *Space Harrier*. It dictated the consoles I bought, from the Sega Master System to buying an NEC PC-Engine just for the love of this game.



SEAT

We replaced the original felt seat base with a new piece pretty simply. It looks great too.

MOTOR DRIVES



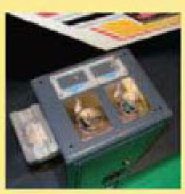
The machine works on two motors that, when operated, turn a ball screw back and forth (like you see on a lathe). One controls the machine's up and down movement and the other controls the left to right – working together they bank and roll the machine. My machine required a new ball screw and this cost me well over £250 to be replaced. Luckily my brother-in-law runs an engineering firm, which brought down the costs.

HANDLE



This was stripped down and re-coated along with the base. The buttons were just cleaned as they were not worn and worked perfectly.

COIN MECH



When I got the machine it did not have the original coin mechs, so I emailed a guy called Andréas in Germany, who has two machines – lucky guy. He kindly sent me the coin mechs and I converted these using some UK ones to take ten-pence pieces instead of German marks. Thank you, Andréas.



MARQUEE

I love the marquee, it's unusual. I chased one on eBay as a spare and it sold for well over £60.

ARTWORK

The artwork is in pretty good condition for 1986. It's near mint. I stripped the base of everything and sent it all to be professionally powder coated. So apart from a few dings, the base is near as new, the rear base stickers were professionally reproduced, and I got ten base stickers and 20 warning labels reproduced.



MONITOR



I'm not happy with the monitor, which is an old 20-inch Hantarex, but the picture is great. The good news is that I have an original Nanao to put in the cabinet as soon as I get the time.

PCB



The original top board of the PCB had a fault, it would not send signals to the motor boards thus causing errors on warm up. I located a set of boards in the USA, and when they arrived I swapped them, and the machine operated perfectly.

DEVELOPER Q&A

We interview Keith Burkhill, creator of the Spectrum version of *Space Harrier*

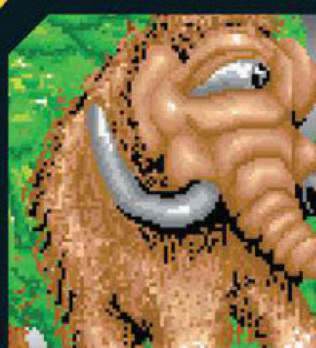
■ Can you tell us about the work you did on the Spectrum port of *Space Harrier* and how you ended up working on the project?
Well, *Space Harrier* was the next game Elite offered me after *Ghost 'N Goblins*, so it was inertia really. The game took me probably six months or more to write and I did all the coding myself while Elite supplied the art.

■ And were you a fan of the arcade machine?
I think I was. I remember it was advanced for its time. It was generally placed where anybody entering the arcade would see it, so naturally you were drawn to it.

■ Did you encounter any problems during the development of the game?
Rendering the floor and the number of sprites required a 'chasing the raster' rate of 25fps, so that was the first thing. Syncing the objects to the floor was a challenge to prevent stitching type problems. I think I used a table to convert the Z to the Y co-ordinates and the table was generated on the Spectrum at the same time as the pre-rotated floor images, then uploaded back to my Einstein. It was a bit of a bodge. Overall I spent far more time on the rendering than the gameplay, which is a weakness of a few of my titles.

■ How do you think your version compares with the other 8-bit *Space Harrier* conversions by Elite?
It looks the prettiest with the constant frame rate and so on, but its gameplay is weaker. Some input from somebody else might have helped, but back then the programmer was expected to do his own quality assurance and just about everything else, including driving it to the duplicators. On my previous game with Elite, *Ghosts 'N Goblins*, I actually did my own art, but despite the triumph of its loading screen and so on, Elite decided they would supply the art from then on.

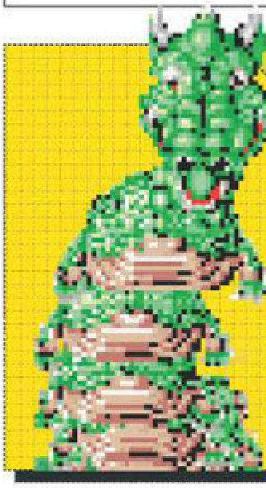
■ What do you think about the average review scores the game garnered?
I thought it would get better reviews than it did. I remember driving all the way to Newsfield and still getting a slagging off from them in *Crash*. I think one of their C64 reviewers had taken a dislike to me and had undue influence over the reviewer of my game. I got my first fan mail for this game. I also got an email recently off somebody who said they had been inspired to go into the business by it and they were apparently quite successful now. Good for him.



■ Did Sega offer much help and input?
I never had any contact with Sega. I got an arcade machine for the duration of the contract and that's all.

COIN-OP CAPERS

THE CONVERSIONS



Space Harrier appeared on scores of systems back in the day. Here are the very best and worst conversions







01. Master System

Given the technical gorge separating the Master System and a *Space Harrier* arcade machine, this port offers a decent rendition. Apart from the colours and speed, the enemies, bosses, and even the bonus stage are all present and correct, and SMS does an admirable job of faking the super scaling effect too.

02. NES (Worst Version)

The NES port was converted by Takara, and is so bad it's a blessing it never polluted our shores. The poor NES struggles to live up to the ambition of the game and at times it feels like you're driving an old banger of a car – you half expect it to break down at any moment. Ugly visuals, woolly collision detection and frequent bouts of flickering and slowdown also make this terribly unforgiving.

03. Game Gear

The Game Gear port was also developed by conversion go-to guys Takara (they did a lot of SNK ports) and was also Japan-only. Similar in style to the NES port, the action on Game Gear maintains an impressive pace and looks colourful and detailed. The only slight issue is that Harrier and his enemies are far smaller in size, making for twitchier gameplay.

04. Amstrad CPC

The presentation, background graphics and Harrier sprite all look superb, and gameplay is fast and fluid. However, enemies, ground obstructions, and gunfire are all drawn vector graphics and their transparency isn't suited to Harrier's different coloured backgrounds – it causes the sprites to bleed into one another.

05. ZX Spectrum

This just pips C64 to the post. The only niggle we have is the lack of colour, which often causes the bullet sprites to mesh with enemy ones and boss fights to feel more taxing than usual. Otherwise, this is a great conversion: the graphics are detailed and the presentation is excellent.

06. Commodore 64

A gallant effort by Chris Butler. A perfectly playable version for C64. The faux 3D effects look impressive, the graphics are colourful and the gameplay whips past at a great pace. The bold character sprites and music by musician Mark Cooksey are the icing on the cake.

07. Amiga

These graphics look superb in full screen and the gameplay is very smooth. This version faithfully re-creates the arcade music and can be controlled using the mouse, which works surprisingly well. Our only issue is that Elite split the game into two parts – the add-on disc *Space Harrier Return To The Fantasy Zone* featured the remaining few stages.

08. Atari ST

There's little between the faithful Amiga and ST versions of *Space Harrier*. Basically, the ST doesn't display the game in full-screen and is multi-load, which means the game can feel a tad clunky. Where this version excels over the Amiga port is its speed and fluidity. It's one of the most exhilarating ports there is.

09. PC-Engine/TurboGrafx-16

The PC-Engine features an impressive port and was the definitive home version. The graphics are superb and the gameplay is faithful to the arcade game. Plus you have the option to play with the controls inverted if you wish.

10. GBA

Forming one quarter of the *Sega Arcade Gallery* – a neat Sega compilation released for GBA, including *OutRun*, *Space Harrier*, *Super Hang-On* and *After Burner* – this is the best handheld *Space Harrier*. But the chaotic gameplay suffers when squeezed onto a tiny screen, and the tiny D-pad doesn't lend itself to its twitchy gameplay.

11. 32X

Save for the *Sega Ages Vol 1* version on Saturn and *Yu Suzuki Games Work Vol 1* on Dreamcast, this is the best port of *Space Harrier* there is and although it was a ten-year-old game at that time, it marks a high point in the 32X's short life. Put this next to the arcade version and you would struggle to notice the difference. Our only gripe is that it's not full screen, when, puzzlingly, 32X *After Burner* was.

12. Saturn (Best Version)

Saturn delivered a flawless version of *Space Harrier* with *Sega Ages Vol 1*. It looks bright, detailed and colourful and is displayed in glorious full-screen too. The sound is equally superb and the gameplay is as quick and as exhilarating as the arcade version of the game. Pushing it into first place, of course, is the bonus of having Sega's *OutRun* and *After Burner II* on the same disc.

13. DOS

As far as early arcade conversions go – *OutRun* was a real shocker if we remember rightly – this remains one of the better stabs at porting a Sega arcade game to PC. Looking and feeling very similar to the ST version, despite the colours looking a little drabber, Elite's PC conversion delivered a functional port of the arcade game. By no means the best out there, it's certainly not the worst.

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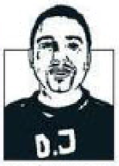

12


13


Stampede

HIGH SCORES AND SADDLE SORES

» RETROREVIVAL



» ATARI 2600
» ACTIVISION
» 1981

If there's one Activision title that never quite appears to get the love it so obviously deserves, then it's the wonderful *Stampede*. Based on the simplest of concepts – herd up cattle as your mounted cowboy rides towards them – it remains a truly superb score attack game that, as with many early Activision titles, places gameplay above everything else.

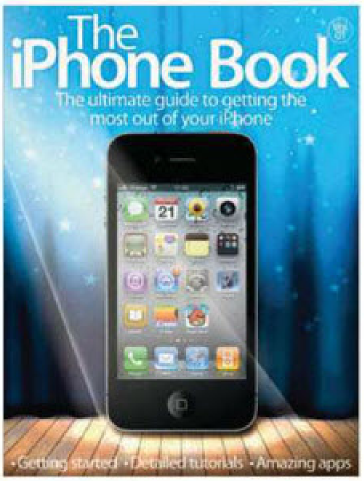
Although that's not to say *Stampede* is an ugly game; far from it. With its super-smooth scrolling, delightful animation and crisp, chunky sprites, seeing *Stampede* in motion is a delight. While its audio isn't quite up to the same high standards, it's a typically slick effort from Activision that still looks great. It remains testament to just how much talent was at Activision and is a great example of the infamous 'Venetian Blinds' technique created by Bob Whitehead.

While the visuals are extremely impressive, it's the gameplay where *Stampede* truly shines – it's so addictive I've had to resort to playing it on the PSP's *Activision Hits Remixed* whenever I get a spare five minutes. A variety of different cows (or dogies as they're referred to in the game) move across the screen, and it's down to your cowpoke to lasso them up as quickly as possible. While you can only move up and down, it is possible to nudge cows that stray too close to you, giving you the few extra precious seconds needed to snag them.

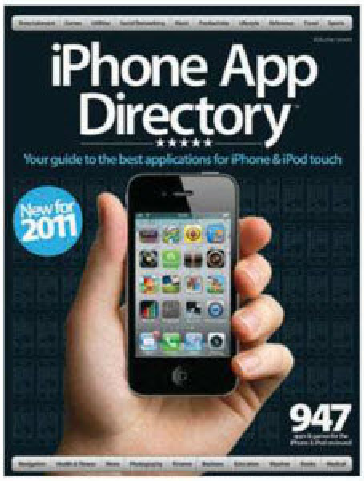
Things are made harder by the addition of the Black Angus, a 100-point beast that steadfastly refuses to move, and bleached skulls that need to be avoided at all costs (and annoyingly cause your horse to rear, which can in turn cause cattle to stray). Let three dogies sneak past you and it's game over. Fortunately, if you score enough points it's possible to gain an extra stray allowance (up to nine).

With eight difficulty levels to contend with that greatly affect the AI of the cattle, *Stampede* is an easy game to get into, but a tough one to actually master. There's no doubting its addictive qualities, however, and it's a challenge that high-score chasers will absolutely adore. *

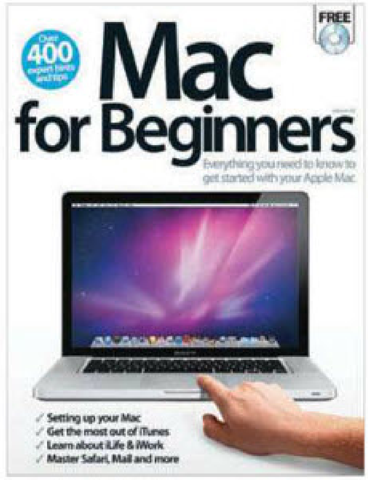




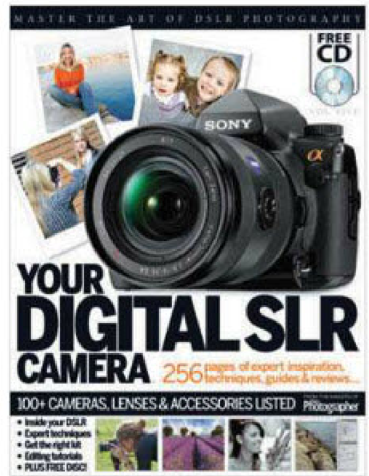
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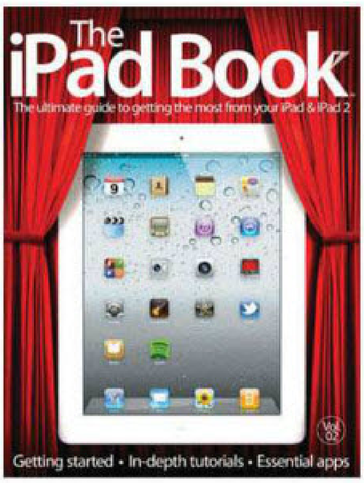


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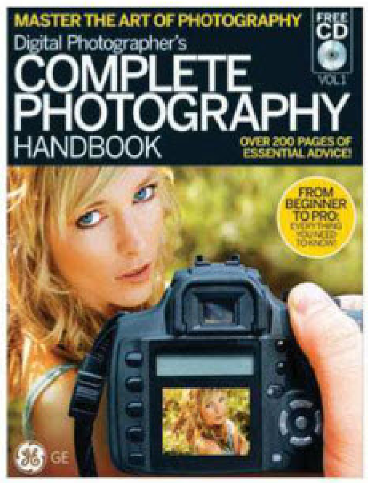
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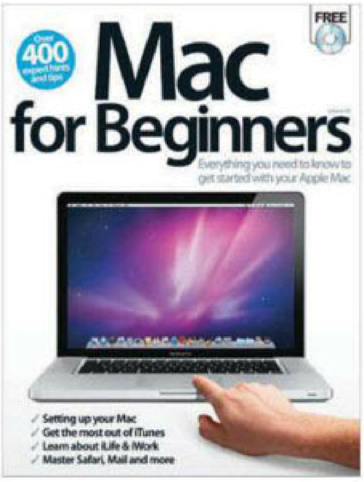
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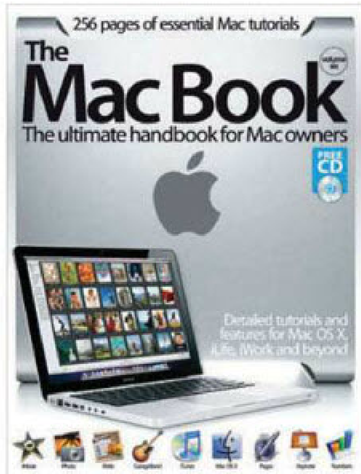
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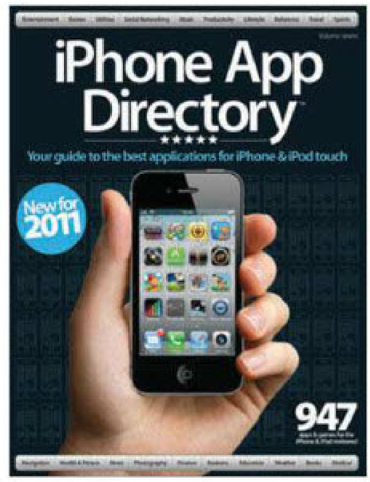
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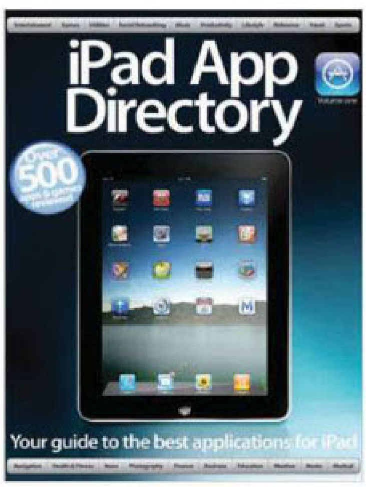
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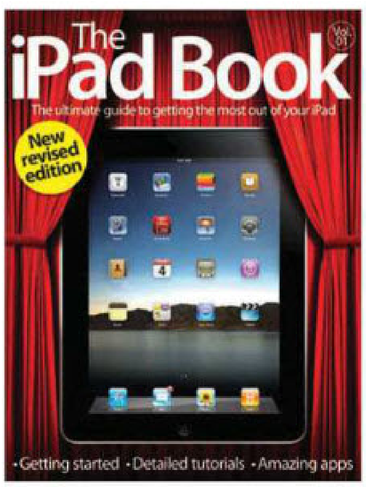
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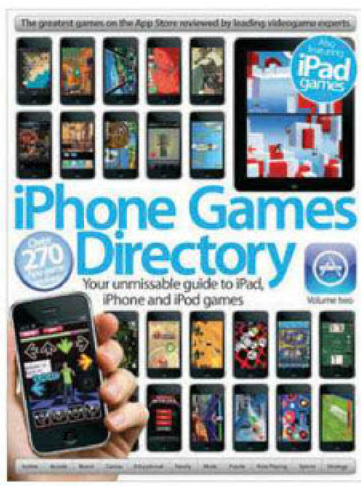
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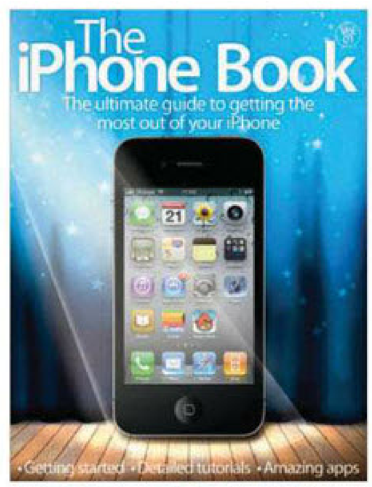
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